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OF THE

FISHERY BOARD FOR SCOTLAND

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# CONTENTS.

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## I. REPORT AND APPENDICES

PAGE  
iii

### REPORT—

PART I.—General Statement . . . . .	iii
Means of Capture . . . . .	iv
Total Landings . . . . .	vi
Herring Fishery—	
Catch . . . . .	vi
Disposal of Catch . . . . .	ix
Cure and Export . . . . .	x
Scottish Participation in English and Irish Fishings	xi
White Fish Fishery—	
Catch . . . . .	xi
Cure . . . . .	xv
Persons Engaged in Scottish Fishing Industry . . . . .	xv
Whaling . . . . .	xvi
Admiralty Vessels for Ex-Service Fishermen . . . . .	xvii
Eel Fishery Development . . . . .	xviii
Civil Liabilities Grants . . . . .	xviii
Branding Regulations . . . . .	xix
PART II.—Salmon Fisheries . . . . .	xx
PART III.—Scientific Investigations . . . . .	xxiii

### APPENDICES—

I. HARBOUR IMPROVEMENT SCHEMES . . . . .	1
II. REPORTS BY INSPECTORS AND FISHERY OFFICERS . . . . .	5
III. REPORT BY INSPECTOR OF SALMON FISHERIES . . . . .	63
IV. INDEX TO PART II. OF REPORT FOR YEARS 1908-1919 . . . . .	69
V. SALMON FISHERY CLOSE TIMES . . . . .	76
VI. CHAIRMEN AND CLERKS TO SALMON DISTRICT BOARDS . . . . .	79

## II. STATISTICAL TABLES (*see separate Contents*).



# THIRTY-EIGHTH ANNUAL REPORT.

TO THE RIGHT HONOURABLE  
ROBERT MUNRO, K.C., M.P.,  
*His Majesty's Secretary for Scotland.*

FISHERY BOARD FOR SCOTLAND,  
EDINBURGH, 1st July 1920.

SIR,—

In terms of the Act 45 and 46 Vict., c. 78, we, the Fishery Board for Scotland, have the honour to present this, our Thirty-eighth Annual Report, being for the year 1919 :—

## PART I.

### GENERAL STATEMENT.

The total quantity of sea-fish landed in Scotland in 1919 amounted to 5,968,866 cwts., of the value including shell-fish, of £6,147,945. As compared with 1918 these figures represent increases of 80 per cent. in quantity but of only slightly more than 1 per cent. in value—a striking commentary on the assertion that the fisherman is still reaping the lion's share of the harvest of the sea.

This result was obtained through the agency of 6534 fishing vessels manned by crews numbering 27,408.

#### SUMMARY OF MEANS OF CAPTURE AND RESULTS.

Year.	Number of Vessels.	Value of Boats and Gear.	Total Catch.	
			Quantity.*	Value.
		£	Cwts.	£
1910	9,724	5,439,857	8,709,655	3,100,387
1911	9,543	5,628,087	8,511,974	3,127,929
1912	9,290	5,777,102	8,587,106	3,656,178
1913	8,991	6,035,952	7,828,350	3,997,717
1914	8,869	6,297,745	7,440,321	3,208,536
1915	4,653	1,668,765	2,319,390	2,109,465
1916	4,650	1,827,346	3,412,030	3,206,550
1917	4,609	1,902,167	3,079,768	3,704,789
1918	6,614	3,038,592	3,313,228	6,066,588
1919	6,534	9,223,456	5,968,866	6,147,945

\* Excluding shell-fish, which are sold partly by number (*e.g.*, oysters) and partly by weight (*e.g.*, mussels), and have no common measure except value.



This, the first complete year since 1913 passed under peace conditions, was one of many vicissitudes in the fishing industry. At its outset, hopes ran high in fishing circles that the year would be one of prosperity. With the cessation of hostilities herring fishermen looked to the restoration of stable conditions on the Continent and the reopening of the principal markets for the produce of their great and important industry. So far from this anticipation being realised, however, political and economic conditions in Central Europe and Germany remained such as to preclude any attempt at private trading, and the industry was only saved from disaster by the Government coming to its assistance.

The white-fish fishing branches also passed through a troubled period. Operations in the early part of the year amply confirmed the anticipation that the close time enforced by war conditions would result in the replenishment of the fishing grounds, and in view of the awakened taste for fish as an article of diet which had developed during the period of food scarcity, it was not unnaturally thought that the increased landings would be readily absorbed. All went well for some months, but the landings soon increased beyond the capacity of the depleted rolling stock and disorganised system of transport and distribution to deal with, with the inevitable result that while fish had occasionally to be disposed of at the ports of landing for manure or returned to the sea, retail prices in the inland markets remained at a level so high as to curtail the demand. Concurrently running expenses of all kinds rapidly advanced, while labour unrest, which was rife in this, as in other industries, led to strikes at both Aberdeen and Granton, the two principal trawling centres in Scotland.

The year which had opened with buoyancy thus closed in an atmosphere of perplexity and misgiving, as the indications at the close of the year gave little grounds for expecting any speedy improvement in the situation.

Partly owing to the fact that the industry was not fully re-established in 1919, and partly out of considerations of economy, the publication of a number of appendices to this report is again suspended.

#### CHANGES IN MEANS OF CAPTURE.

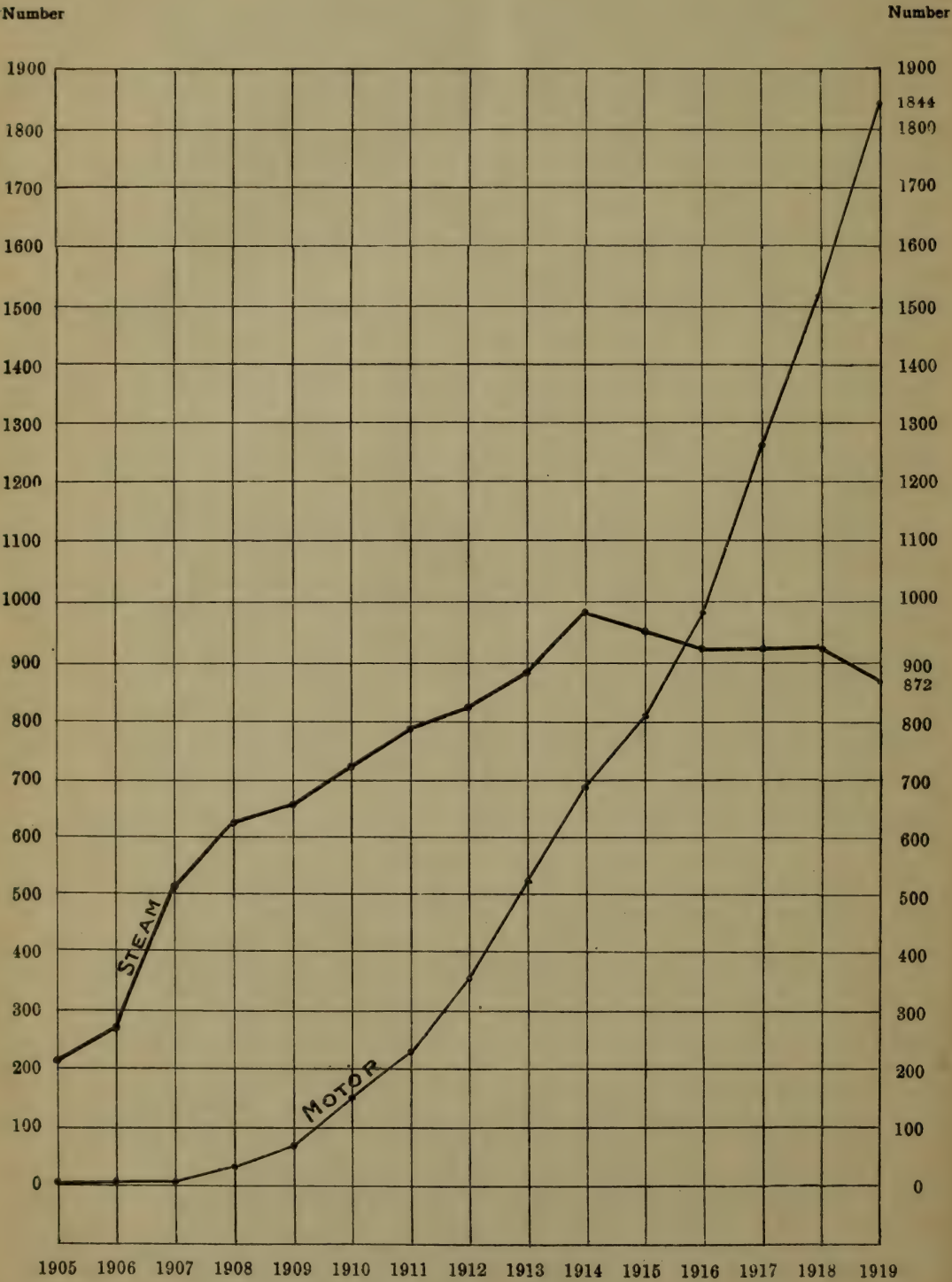
The number of fishing vessels employed in the Scottish fisheries during the year was 6534, manned by crews which numbered 27,408. These figures, especially as regards the number of fishermen, show substantial increases as compared with those for the preceding year, due to the return to fishing during the year of the men and larger vessels that had been on Admiralty and other War Service during the war.

The figures given in Table A (p. 4) of the vessels, fishing gear, and men for the year 1919, and also the corresponding figures given above for the years from 1915 represent only the vessels, etc., actually engaged in fishing, and for the year 1919 they exclude 50 steam trawlers, 201 steam drifters or liners, 93 motor boats, and 1362 sail boats, which in the case of the steam and motor vessels were mostly on Service or reconditioning, and in the case of the sail boats were unemployed. On the other hand, the statement of vessels engaged in fishing for the year includes 20 English steam trawlers and 96





CHART SHOWING THE INCREASE OF STEAM DRIFTERS  
AND LINERS AND MOTOR BOATS



English steam drifters or liners which were fishing from Scottish ports. If adjustments be made accordingly, the total number of fishing vessels belonging to Scotland in the year 1919 is found to be 8124, of which 324 were steam trawlers; 872 steam drifters or liners, 1844 motor boats, and 5084 sail boats. The chart opposite, showing the increase in the number of motor boats as compared with steam drifters or liners, is prepared on this basis.

The motor fishing fleet was again considerably augmented, and a large number of orders, chiefly for the installation of engines in existing boats, were still outstanding at the close of the year. The demand for motor boats, however, especially of the largest size, was slackening, since steam drifters were again becoming available, while fishing generally was not so remunerative as during the war. Particulars of the motor fishing fleet are given in the following table, together with a comparison with the year 1918 :—

Year.	I. Class.		II. Class.	III. Class.	Total.
	Over 45'	30'–45'	18'–30'	Under 18'	
	Keel.	Keel.	Keel.	Keel.	
1919	578	293	841	132	1844
1918	432	247	744	95	1518

About 90 per cent. of the first-class motor vessels and 50 per cent. of the others were owned on the East Coast.

There was a large number of transactions in steam drifters during the year, as fishermen readjusted themselves to peace conditions, and a number of vessels were sold to England and abroad, so that the total number belonging to Scotland was reduced by about 50 as compared with the preceding year. The number of drifters or liners actually fishing, however, increased fourfold.

The number of trawlers working increased about threefold, while the total number belonging to Scotland was greater by 11.

The decrease in sail boats continued, especially in the largest class of over 45 feet keel. Of these only 334 remained, and it is doubtful if the majority will see much further service unless they are fitted with motor engines. The most suitable have, however, already been utilised for conversion into motor boats, and except in Shetland sail boats of this type are practically obsolete.

No steam vessels were built to the order of fishermen or boat owners during the year, although 22 of the trawlers and 20 of the drifters which were built to Admiralty order were purchased and utilised for fishing as soon as completed. The increase in the motor fleet was effected mainly through the conversion of sail boats, but 52 new motor boats, chiefly of 30 to 45 feet of keel, were built for small-line fishing on the East Coast. Of sail boats the number built was 55, and of these 32 were boats of the smallest size, *i.e.* under 18 feet, for use in hand lining in Orkney and Shetland. None exceeded 30 feet of keel.

The monetary value of vessels showed a further marked increase as compared with the preceding year, even after allowance is made for the increase in the numbers working. The appreciation in the value of fishing gear was still more marked, and the rising prices of gear of all kinds presented a serious problem.



It is now possible to give some particulars of the losses sustained by the Scottish fishing fleet during the war. The number of vessels sunk while following their ordinary occupation was 96, of which 51 were trawlers, and the remainder steam drifters or liners, or motor boats. The great majority fell victims to enemy submarines. The worst month was June 1915, when no fewer than 34 fishing vessels were sunk; the subsequent development of counter-measures, and the stricter regulation of fishing operations obviated a recurrence of losses on the same scale.

Up to the date of the Armistice 1264 Scottish fishing vessels—302 trawlers, 829 drifters, and 133 motor boats—had been taken over for War Service, chiefly as naval auxiliaries, and of these about 100 were lost while on Service. Of the vessels still on Service when hostilities ceased, all except 131 had been released by the end of 1919, and the majority had been reconditioned and were again engaged in fishing.

#### TOTAL CATCH.

The total quantity of fish landed in Scotland (exclusive of shell fish) during the year under review was, as already stated, 5,968,866 cwts., which realised £6,063,739. To this figure has to be added the amount realised for shell fish, viz., £84,206, so that the gross total value of the fisheries was £6,147,945, or £81,357 more than in 1919. This sum is the highest ever recorded, but it is far from being commensurate with the great increase in the quantity landed, and if prices at first landing had been maintained at the level of 1918 the increase would have amounted to no less than £4,730,200.

It was not of course to be expected that the inflated prices which ruled during the war could be maintained, but the reduction from the previous year, attributable chiefly to the abnormal conditions on the Continent and the inadequate facilities for distribution at home, was too pronounced to be altogether salutary, and unless conditions improve it is to be feared that much capital and many men will be forced into other spheres of industry, a consummation which, in view of the importance of the fishing industry in the national polity, would be in the highest degree to be deplored.

#### HERRING FISHERY.

The quantity of herrings landed in Scotland in 1919 was 3,735,486 cwts., valued at £2,236,559, these figures representing an increase of 1,673,745 cwts., or 81 per cent. in quantity, but a decrease of £300,551, or 12 per cent. in value as compared with 1918.

The following table shows the results of the Scottish herring fishery during the last ten years :—

[TABLE.

Year.	Quantity. Cwts.	Value. £	Average Price per Cwt.
1910	5,687,226	1,594,308	5/7
1911	5,036,484	1,505,334	6/
1912	5,201,300	1,910,533	7/4 $\frac{1}{2}$
1913	4,449,323	2,087,754	9/4 $\frac{1}{2}$
1914	4,383,265	1,339,046	6/1 $\frac{1}{4}$
1915	703,096	441,980	12/6 $\frac{3}{4}$
1916	2,086,177	1,350,609	12/11 $\frac{1}{2}$
1917	1,972,346	1,563,824	15/10 $\frac{1}{4}$
1918	2,061,741	2,537,110	24/7
1919	3,735,486	2,236,559	11/11 $\frac{1}{4}$

The winter herring fishing, which covers the period from 1st January to 31st March, and is prosecuted chiefly in the Minch, on the North Coast, and in the Firth of Forth, yielded 742,707 cwts., valued at £844,119, or 37,929 cwts. in quantity and £249,610 in value less than in the preceding year, and having regard to the fact that a largely augmented fleet was at work and that operations, owing to the removal of Admiralty restrictions on the North Coast, were conducted over a wider area than had been possible during the four preceding years, these results cannot be regarded as satisfactory. No lack of energy was displayed by the fishermen, who pursued their calling zealously and with perseverance, undeterred by the stormy weather which frequently prevailed. The shoals, however, were unusually sporadic, and while on occasion they were so dense that the nets were sunk by weight of fish, at other times catches were very light, in both cases to the detriment of the fishermen. Apart also from the fact that prices were controlled, the quality of the fish was not so good as in the previous season, spent fish making their appearance at an unusually early date. A few crews had satisfactory earnings, but for the majority the season was not a remunerative one, what would otherwise have been satisfactory earnings being offset by heavy working expenses and loss of gear, and a number of crews finished the season in debt.

With the reopening of the grounds on the East Coast to fishing operations the summer and autumn herring fishing resumed its old position of pre-eminence. Preparations were begun by fishermen and curers in May, but the eager and optimistic spirit which normally prevails prior to the opening of the summer season was tempered by the general feeling of doubt and uncertainty as to the prospects, and much hesitancy and indecision prevailed. To all concerned the situation was beset with difficulties, and numerous meetings were held to consider what measures could be adopted to meet it. These discussions soon crystallised into a demand for Government assistance, and a Committee was appointed to formulate a guarantee scheme for submission to the Government. This scheme underwent various modifications before it received the sanction of the Cabinet, and as finally approved it provided that the Government should take over stocks of cured herrings unsold at 15th September up to a maximum of 400,000 barrels at prices which it was calculated would enable curers to pay fishermen 40s. per cran and leave them a fair margin of profit.



Prior to the announcement of the guarantee fishing was begun, but the fish proved unsuitable for curing, even had curers been willing to adventure their resources, while owing to the heavy supplies of white fish which were being landed, the demand for freshing and kippering purposes slackened, with the result that prices soon fell to a figure which made fishing impossible, while quantities were returned to the sea or disposed of for manure. The fishermen, in mass meetings at Peterhead and Fraserburgh, therefore resolved to suspend operations until adequate prices could be obtained, and this resolution was adhered to either wholly or partly at most of the other ports. The announcement of the Government guarantee led to a resumption of fishing, but difficulties still continued as the prices received by the fishermen ruled low. Further stoppages occurred or were threatened, but ultimately the mediation of the Board's Secretary was invoked, and as the result of meetings with representatives of the various interests concerned which he held at Fraserburgh and Peterhead, he was successful in composing their differences, the fishermen agreeing to resume fishing on the understanding that curers would pay not less than 35s. per cran for herrings of good quality cured on the day of capture.

Catches during the greater part of the season were generally quite satisfactory, and at times, especially in Shetland waters, a very high average was attained. Curers, with the guarantee in view, had apparently no hesitation in dealing with as large quantities as their staffs could overtake, but at the same time competition as among themselves was not keen, and the prices paid by them fell considerably short of those which the guarantee would have justified. In this connection, however, it has to be borne in mind that their capital was steadily being locked up in the stocks of cured herrings which accumulated on their hands as the season advanced, while in many cases staffs were inadequate, and they were repeatedly faced with a shortage of salt and barrels. There was also a tendency on the part of a section of the curers to refrain from paying the price contemplated under the scheme on the off chance of being able to dispose of their herrings privately.

The fishermen's dissatisfaction with the prices obtained found expression in numerous protest meetings at the chief ports, and finally when, after a remarkably long spell of favourable weather, a storm interrupted the fishing towards the end of August, the majority of the crews ceased operations for the season.

The summer and autumn fishings combined yielded a total of 2,992,779 cwts., which realised £1,392,440, these figures representing an increase of 133·6 per cent. in quantity, but a decline of 3·5 per cent. in value, as compared with the preceding year's results.

The most successful ports were Fraserburgh, Lerwick, Peterhead, and Wick in the order given, and the particulars for these ports are given below, the figures for 1913 being also shown for comparison.

			1919.		1913.	
			Cwts.	£	Cwts.	£
Fraserburgh	..	..	802,459	338,479	649,880	330,207
Lerwick	..	..	500,529	191,028	684,961	326,097
Peterhead	..	..	492,389	211,926	772,309	362,069
Wick	..	..	362,663	138,540	380,341	209,267



The proportions of the year's catch landed by steam, motor, and sailing drifters respectively were roughly 47 per cent., 41 per cent., and 12 per cent., as compared with 34 per cent., 47 per cent., and 19 per cent. in 1918, these percentages reflecting the change in the composition of the fleet due to the release of steam drifters from Admiralty service.

The quantity of herrings landed in each district monthly in 1919, together with the totals for 1918, is shown in the following table :—

RETURN showing the Quantity of Herrings landed in each District in each Month of the Year 1919.

District.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	TOTAL.
	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.
Eymouth	..	..	311	..	780	2,191	5,334	26,607	14,875	..	..	..	50,098
Leith	2,280	15,425	2,771	3527	351	365	7	39	299	166	114	..	25,344
Anstruther	..	4,202	13,414	475	101	3	..	266	..	..	..	..	18,401
Montrose	83	3	..	2	24	2	58	129	..	..	188	109	598
Stonehaven	..	..	..	..	..	35	77	28	..	..	..	..	140
Aberdeen	1	1,306	25	510	3,444	10,084	22,803	25,377	1,733	..	..	3	65,286
Peterhead	1,208	5,159	2,065	234	9,139	49,340	244,605	183,894	5,177	..	..	..	500,821
Fraserburgh	3,024	5,464	63	..	5,660	71,411	472,706	245,840	5,960	..	..	882	811,010
Banff	..	19	50	..	361	2,475	12,453	8,103	..	..	..	..	23,461
Buckie	4,621	10,378	596	..	1,159	8,752	37,930	20,100	..	..	..	2,142	85,678
Findhorn	17,337	2,259	322	..	21	253	3,588	2,261	3,671	8,090	11,573	21,233	70,608
Cromarty	..	..	..	..	..	..	102	..	5	..	..	..	107
Helmsdale	..	..	..	..	..	..	..	266	119	..	..	..	385
Lybster	..	..	..	..	..	..	..	238	322	..	..	..	560
Wick	29,421	28,619	6,158	340	7,147	45,873	179,261	121,292	714	..	..	8,036	426,861
Orkney	..	..	..	..	..	242	1,981	3,605	..	..	..	..	5,828
Shetland	..	3,164	3,994	2,405	12,393	114,017	227,818	143,654	242	..	..	..	507,687
Stornoway	91,772	97,817	9,287	13	6,741	17,163	24,637	24,886	13,745	4,308	5,519	19,889	315,772
Barra	2,320	3,853	987	66	2,617	2,699	2,010	9,807	91	424	..	637	25,511
Loch Broom	1,904	1,312	14	..	..	34	287	1,038	802	..	2,604	18,707	26,702
Loch Carron	..	..	..	..	..	..	..	..	..	..	..	..	..
and Skye	36,879	41,555	2,451	518	1,784	150	326	1,772	5,198	821	3,668	29,233	124,355
Fort-William	87,221	89,691	13,420	10,209	71,041	26,705	11,470	10,791	3,366	2,380	7,246	45,021	378,561
Campbeltown	5,544	79	6,095	3,605	1,753	2,421	4,805	8,852	8,466	15,158	3,841	2,541	62,690
Inveraray	22	94	255	39	33	1,820	6,022	2,139	4,742	10,539	9,114	7,154	41,973
Rothsay	44,478	6,472	1,114	308	618	693	1,156	1,229	1,239	1,911	1,1420	38,871	109,539
Greenock	3,070	1,085	777	238	490	133	2,793	210	171	1,169	1,142	1,880	13,158
Ballantrae	8,938	19,987	472	17	1,910	4,671	1,809	1,456	1,781	1,476	1,364	441	44,352
TOTALS 1919	340,123	337,943	64,641	22,506	127,567	361,532	1,264,068	843,379	72,718	46,437	57,793	196,779	3,735,486
TOTALS 1918	208,862	349,475	223,014	38,956	143,590	252,765	415,190	188,707	26,385	29,561	78,894	106,342	2,061,741

# DISPOSAL OF THE HERRING CATCH.

The following table shows the disposal of the catch in 1919, as compared with the previous year :—

	Freshed.	Cured	Cured	Un-	Bloaters	Tinned.
		Gutted.	gutted.	Kipperd.	or Reds.	
	Crans.	Barrels.	Barrels.	Crans.	Crans.	Crans.
1919	248,539	624,217	61,535	293,040	15,097	39,997
1918	304,168	31,031	45,649	256,968	22,037	17,550

The most obvious feature of this table is, of course, the great increase in the quantity cured gutted, due to the resumption of curing for export on something approximating to the pre-war scale which was made possible by the Government guarantee. Notwithstanding the success which attended the efforts made during the war to extend the home consumption of herrings, in various forms, it was, of course, patent that this outlet would be totally inadequate to

absorb the catch when once operations were resumed on a large scale. It is gratifying, however, to note that although the quantity consumed fresh fell by some 195,000 cwts., a circumstance which is not surprising when it is remembered that the landings of white fish were doubled, the total quantity which was treated in a form suitable to the home market was practically the same as in 1919, the falling off in the quantity consumed fresh having been offset by a further expansion of the kippering and tinning branches of the industry.

#### CURE AND EXPORT OF PICKLED HERRINGS.

In view of the difficulties with which they had to contend, it is not a matter for surprise that curers should have shown some hesitation in embarking upon curing operations. Apart from the problem of disposing of the cure, they were faced with a scarcity of curing material, and a shortage of all forms of skilled labour. The supply of qualified gutters and packers, owing to the cessation of curing during the war, was quite unequal to the demand. Owing to freight difficulties, stave wood for the manufacture of barrels was both scarce and dear, and the same remark applies to salt. Labour unrest among coopers and others was a further handicap, while owing to the disorganisation in the railway services, the transport of curing stock was a matter of both difficulty and expense. Moreover, although the guarantee scheme guaranteed curers who availed themselves of it against actual loss, there remained the difficulty that unless they could find a market for their herrings, their capital would be tied up till the close of the season, and their operations inevitably cramped.

On more than one occasion delays in the transport of salt and a shortage of freight for barrel-making material threatened to cause a breakdown, and the Board are glad to be able to state that by making prompt representations to the various Departments concerned, they were instrumental in relieving the situation.

Numerous as were the difficulties, however, curers were by no means disposed to accept the situation with folded hands, and no efforts were spared to find new and to develop old markets. Ultimately a deputation was successful in concluding, on behalf of the trade as a whole, a contract with the official German Fish Supply Department for 250,000 barrels of herrings at satisfactory prices, which went far to ease the situation.

Including the stock on hand at the beginning of the year, the total number of barrels available for disposal in 1919 was 627,246, and the efforts which were put forth to find markets for them were so far successful that at the close of the year the unsold stock was less than 34,000 barrels.

Of the total stock Germany took 284,731 barrels, the Baltic ports formerly belonging to Russia 137,459 barrels, Holland 32,387 barrels, France 34,647 barrels, Belgium 22,802 barrels, and Scandinavia and Denmark 11,213 barrels, while the export to the United States of America was nearly trebled, this market absorbing 62,552 barrels, as against 23,498 in the preceding year.

The exports to the principal markets abroad since 1910 have been as follow :—



Year.	To Germany.*	To Russia.	To America.
	Barrels.	Barrels.	Barrels.
1910 . . . . .	982,361	732,345	73,409
1911 . . . . .	794,219	655,814	75,005
1912 . . . . .	719,013	750,187	93,471
1913 . . . . .	672,701	619,680	104,045
1914 . . . . .	353,323	493,039	115,347
1915 . . . . .	—	51,143	45,385
1916 . . . . .	—	285,365	46,281
1917 . . . . .	—	52,041	16,109
1918 . . . . .	—	—	23,498
1919 . . . . .	287,306½	134,885	62,552

\* From 40 to 50 per cent. of the total quantity of herrings exported to Germany was, in normal circumstances, sent over the frontier to Russia and other Eastern countries.

The Board desire to place on record their appreciation of the services rendered by the Committee of representatives of the industry, and particularly by Mr. George Slater, C.B.E., in the administration of the guarantee, and the sale of the herrings handed over to the Board under the scheme.

#### SCOTTISH BOATS IN ENGLAND AND IRELAND.

The East Anglian autumn herring fishing, for which, in response to representations from all sections of the industry both in England and Scotland, the Government sanctioned a guarantee scheme also, was engaged in on a very much larger scale by Scottish fishermen and curers than in 1918. In the formulation of this scheme the experience gained in administering the Scottish scheme was drawn upon, and as finally sanctioned by the Government it embodied two important changes from that in force during the summer, viz. fishermen were guaranteed a fixed price per cran, which curers who wished to participate in the scheme had to pledge themselves to pay, and curers received payment of 90 per cent. of the cost price of their cured herrings immediately after inspection and acceptance. As the quantity of cured herrings which the Government undertook to purchase was restricted to 600,000 barrels, the committee appointed to operate the scheme had necessarily to be empowered to control operations in the event of gluts occurring, but in practice no action in this direction proved necessary, the stormy weather experienced providing an effectual safeguard against overfishing.

The results of the season's operations were only moderately remunerative to fishermen. Gross earnings in some cases reached as high as £3000, but the average was probably less than half that amount, and of this again one half would probably be absorbed by expenses and in replacing lost gear, the number of nets lost owing to stormy weather and congestion on the fishing grounds having been exceptionally heavy.

#### WHITE FISH FISHING.

The quantity of white fish landed in 1919 was 2,134,335 cwts., for which £3,786,623 was realised, an increase of 1,005,712 cwts., or



89 per cent. in quantity, but of only £443,812, or 13 per cent., in value, as compared with the figures for the preceding year. The value is the highest ever recorded, but it, of course, represents a very much less favourable result than in 1918, the average price per cwt. working out at 35s. 6d., or 23s. 8d. less than in the preceding year.

Of the increase in quantity 90 per cent. was referable to trawlers, whose number, as already stated, received a large accession during the course of the year.

The totals of the white-fish fishing during the last decade are given below :—

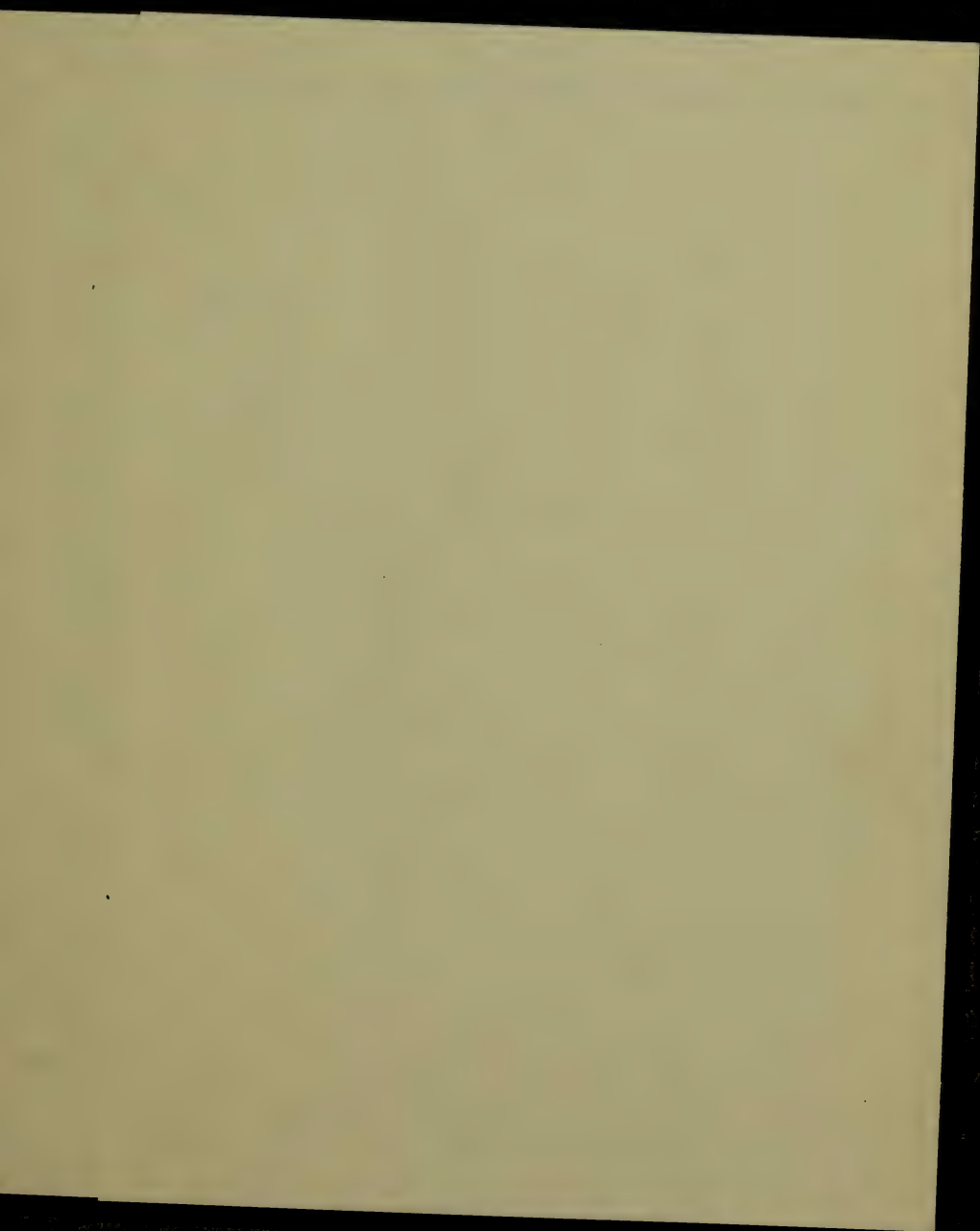
Year.	Quantity. Cwts.	Value. £
1910 . . .	2,968,598	1,491,339
1911 . . .	3,391,316	1,540,539
1912 . . .	3,331,799	1,666,380
1913 . . .	3,296,257	1,824,741
1914 . . .	2,949,008	1,778,973
1915 . . .	1,540,345	1,585,717
1916 . . .	1,258,390	1,772,561
1917 . . .	1,007,569	2,021,817
1918 . . .	1,128,623	3,342,811
1919 . . .	2,134,335	3,786,623

Trawling has contributed to the foregoing result as follows :—

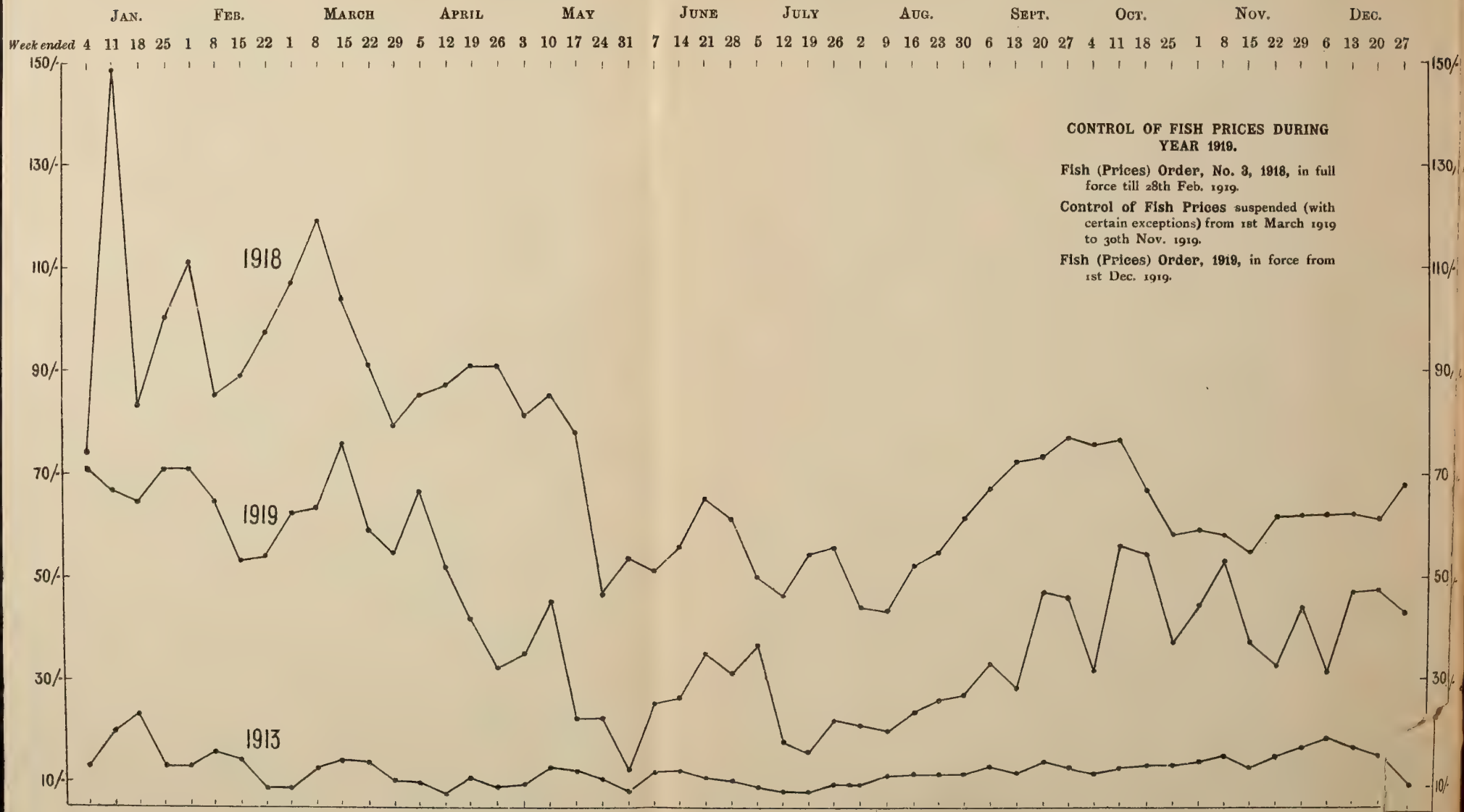
Year.	Quantity. Cwts.	Value. £
1910 . . .	2,102,031	1,102,976
1911 . . .	2,439,108	1,113,820
1912 . . .	2,392,692	1,232,193
1913 . . .	2,541,948	1,424,115
1914 . . .	2,191,387	1,333,834
1915 . . .	953,503	1,040,726
1916 . . .	735,862	1,117,056
1917 . . .	528,276	1,152,742
1918 . . .	495,401	1,569,454
1919 . . .	1,401,283	2,383,158

The balance, as follows, has been taken by lines and by nets other than trawls :—

Year.	Quantity. Cwts.	Value. £
1910 . . .	866,567	388,363
1911 . . .	952,208	426,719
1912 . . .	939,107	434,187
1913 . . .	754,309	400,626
1914 . . .	757,621	445,139
1915 . . .	586,842	544,991
1916 . . .	522,528	655,505
1917 . . .	479,293	869,075
1918 . . .	633,222	1,773,357
1919 . . .	733,052	1,403,465



# AVERAGE WEEKLY PRICES PER CWT. OF WHITE FISH AT ABERDEEN FOR YEARS 1913, 1918, AND 1919.





In so far as the trawling industry was concerned, the year was one of alternations between prosperity and the reverse. In the early months of the year, when the fleet was still comparatively small, excellent catches and good prices were the rule, and voyages proved highly remunerative. As the number of vessels at work increased, however, and more and more grounds which had been closed or inaccessible during the war were reopened to fishing operations, the supply began to exceed the demand with increasing frequency, with the result that the proceeds of many trips, highly successful as regards the quantity of fish taken, frequently fell short of the actual expenses, which rose steadily as the year advanced. With the outbreak of a strike among trawl-fishermen at Hull and North Shields this state of affairs was temporarily ameliorated, but soon the unrest among the trawlermen spread to Aberdeen. The dispute came to a head at the beginning of September, and, the owners and men failing to come to terms, the vessels were laid up as they reached port. The deadlock at Aberdeen naturally reacted greatly to the advantage of the Granton and Dundee fleets, which continued to work as usual, but they were prevented from reaping the full benefit of the situation owing to the outbreak at this juncture of the railway strike, although distribution was maintained to some extent by an improvised service of motor lorries.

The deadlock at Aberdeen lasted for about ten weeks, or from the beginning of September until the middle of November, and a settlement had barely been reached there when a similar dispute arose at Granton, which was still unsettled at the close of the year.

The effects of these disputes were severely felt by all connected with the industry. In order to maintain their trade connections, local merchants and curers were compelled to obtain their supplies from other sources—mainly the English trawling ports—a process which was both costly and unsatisfactory, and it is calculated that but for these disputes the year's total earnings from trawling would have been augmented to the extent of some £560,000.

A graphic representation of the trend of prices realised at Aberdeen for white fish during the years 1913, 1918, and 1919 is given on the opposite page.

The landings by steam liners were nearly trebled, many drifters having owing to the uncertainty of the outlook in herring fishing elected to follow this branch of the industry, and the contribution from this source amounted to 158,615 cwts., valued at £340,140, as compared with 56,813 cwts. and £140,064 in the preceding year.

Small liners accounted for 489,167 cwts., valued at £882,106, as compared with 491,368 cwts. and £1,314,752 in 1918. This method of fishing bids fair to become the monopoly of the medium-sized motor-boat within a few years' time, and during the year under review a further advance was made, the motor boats' share of the landings amounting to 348,635 cwts., or 71 per cent., as compared with 64 per cent. in the preceding year. It will be observed that although the great bulk of the landings by this method consisted of the cheaper varieties of fish, such as haddocks and codlings, the average price realised for fish taken by small-lines (36s. 1d.) is slightly higher than the general average for all white fish (35s. 6d.), this being accounted for by the fact that small-line fish are invariably landed in prime condition.

The quantity of white fish taken by nets was 85,270 cwts. This figure is practically identical with that for last year, and represents to a large extent the produce of the Moray Firth spring cod-net fishing.

The principal species represented in the white fish supplies were, among round fish, haddocks (42 per cent.) cod and codling (30 per cent.), saithe (5 per cent.), and ling (4 per cent.), and among flat fish, plaice (3·2 per cent.) and halibut (2 per cent.).

It is interesting to note that by a vagary of public taste turbot, which before the war was the most highly esteemed of all fish, and invariably realised the highest average price, has now given place to halibut, which during the year under review realised £4, 17s. 5d. per cwt., or 4s. 3d. per cwt. more than was obtained for turbot.

In the following table the fishing grounds or areas from which the Scottish white-fish supply was drawn in 1919 are shown, together with the quantities of the various species taken from each:—

TABLE showing the Quantity of each kind of Demersal Fish landed in Scotland in 1919, and the Fishing Area from which taken.

Kind of Fish.	North Sea.	Iceland and Faroe.	Western Grounds.	Mixed Grounds.	Irish Grounds.	Totals.
	Cwts.	Cwts.	Cwts.	Cwts.	Cwts.	Cwts.
Cod and Codling . . . . .	413,841	144,042	76,090	11,246	4	645,223
Ling . . . . .	40,621	6,294	35,467	2,152	128	84,662
Tusk . . . . .	2,153	302	2,145	191	8	4,799
Saithe . . . . .	47,582	20,711	35,807	2,898	1	106,999
Hake . . . . .	7,759	45	2,077	271	1	10,153
Haddocks . . . . .	722,877	109,096	56,263	15,708	..	903,944
Whiting . . . . .	76,782	2,244	4,567	612	..	84,205
Turbot . . . . .	3,024	3	116	10	..	3,153
Halibut . . . . .	15,612	2,665	24,057	1,425	425	44,184
Brill . . . . .	447	2	69	2	..	520
Lemon Soles . . . . .	14,103	3,145	407	500	..	18,155
Flounders . . . . .	844	..	2,090	..	..	2,934
Plaice . . . . .	47,066	4,396	16,566	525	..	68,553
Dabs . . . . .	6,350	396	353	28	..	7,127
Whitches . . . . .	3,022	775	358	57	..	4,212
Megrims . . . . .	7,222	91	635	235	..	8,183
Conger Eels . . . . .	410	1	13,492	59	2	13,964
Skate . . . . .	50,570	667	29,278	1,551	39	82,105
Gurnards . . . . .	5,592	16	462	39	..	6,109
Catfish . . . . .	10,449	5,519	40	615	..	16,623
Monks . . . . .	8,507	525	411	232	..	9,675
Squids . . . . .	19	..	1	..	..	20
Other Kinds . . . . .	1,085	6	7,726	16	..	8,833
Grand Totals . . . . .	1,485,937	300,941	308,477	38,372	608	2,134,335
Percentage 1919 . . . . .	69·62	14·10	14·45	1·80	·03	..
Percentage 1918 . . . . .	84·89	·89	14·13	·07	..	..

The next table shows the quantity of white fish landed in each district in each month of the year, together with the totals for 1918. This table clearly illustrates the effect of the various factors which influenced fishing operations during the year, to which reference has already been made.

[TABLE.]



RETURN showing the Quantity of White-Fish landed in each District in each Month of the Year 1919.

District.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
	Cwts.	Cwts.	Cwts.	Cwts.	Cwts.	Cwts.	Cwts.	Cwts.	Cwts.	Cwts.	Cwts.	Cwts.	Cwts.
Eyemouth .	1,663	1,762	1,795	1,209	1,220	480	228	178	16	766	1,979	2,644	13,940
Leith .	11,790	14,505	18,407	24,206	29,777	26,647	33,105	33,876	37,510	43,530	26,896	4,036	304,285
Anstruther .	1,736	3,854	1,461	2,297	2,901	2,131	2,057	1,978	1,964	2,899	2,555	2,509	28,342
Montrose .	3,296	6,723	5,541	6,840	10,273	10,236	11,330	13,550	14,829	12,068	11,623	9,274	115,583
Stonehaven .	396	855	569	908	2,183	1,577	2,293	2,211	2,196	2,041	1,933	990	13,152
Aberdeen .	24,652	49,358	65,222	117,740	190,141	156,621	179,241	165,474	69,439	5,442	37,662	141,064	1,202,056
Peterhead .	2,626	1,836	998	1,045	3,726	1,693	2,777	1,246	1,494	1,990	2,220	1,464	23,115
Fraserburgh .	2,267	2,455	1,772	2,106	5,760	2,273	1,616	1,213	2,587	2,683	2,920	2,144	29,796
Banff .	2,276	4,318	2,283	3,030	4,796	2,950	4,842	3,602	6,749	6,467	8,923	4,549	54,785
Buckie .	2,524	7,626	8,250	3,302	895	813	1,835	1,169	1,298	2,355	2,370	1,227	32,664
Findhorn .	3,386	7,494	5,985	3,937	2,688	2,565	4,793	2,954	3,775	3,103	3,374	2,248	46,302
Cromarty .	1,127	1,520	1,424	800	1,012	843	1,309	1,052	1,094	1,288	981	877	13,327
Helmsdale .	1,323	3,024	2,034	2,082	811	985	1,725	809	1,236	1,829	2,165	1,716	19,689
Lybster .	292	186	212	165	75	79	96	6	38	327	551	460	2,487
Wick .	2,926	4,880	4,884	1,549	2,418	1,576	3,024	1,478	1,931	2,779	3,408	1,486	32,339
Orkney .	1,040	1,601	718	369	628	509	1,070	880	430	720	1,033	407	9,455
Shetland .	5,219	3,626	3,664	3,788	3,712	4,158	3,885	2,124	305	1,164	2,791	2,787	37,223
Stornoway .	6,450	5,815	2,300	1,670	3,934	3,536	3,696	1,620	942	1,162	1,262	939	32,826
Barra .	90	421	347	309	314	426	248	328	263	233	134	148	3,261
Loch Broom .	751	1,319	1,585	564	223	265	349	401	287	345	417	461	6,967
Loch Carron and Skye .	3,398	4,842	1,108	252	92	115	103	50	85	864	3,358	1,843	16,110
Fort-William .	3,564	7,816	10,417	10,641	3,678	1,730	1,097	315	144	2,290	2,718	1,485	45,895
Campbeltown .	17	248	738	1,628	236	175	312	254	153	686	299	33	4,659
Inveraray .	1	24	83	203	47	54	36	5	14	354	98	99	1,013
Rothesay .	472	529	465	689	1,056	637	65	53	226	1,024	779	343	6,338
Greenock .	61	139	111	126	91	241	88	55	125	1,255	202	512	3,006
Ballantrae .	1,740	4,741	6,216	4,281	2,358	752	1,035	993	924	3,368	2,417	1,890	30,715
TOTALS 1919	85,083	141,017	148,589	194,736	275,045	224,017	262,155	237,874	150,054	103,012	125,118	187,635	2,134,335
TOTALS 1918	54,735	78,792	103,404	98,860	122,350	97,268	112,803	100,194	93,527	90,982	83,474	92,234	1,128,623

## WHITE FISH CURING.

As was only to be expected, in view of the large increase in the quantity landed, the curing of white fish was carried on on a very much larger scale than in 1918, the total quantity so treated amounting to 201,979 cwts. (of which a little more than half consisted of haddocks), as against 68,347 cwts. in the preceding year. Of the total 77 per cent. was smoked, 11 per cent. cured dried, 9 per cent. pickled, and the remainder tinned. The pickled fish, with the exception of a small quantity of mackerel, consisted entirely of sprats lightly cured for export to Sweden to be utilised in the sardine-tinning industry. In 1918 the entire catch of sprats was consumed fresh, but during the year under review, owing to the increased supplies of other fish, there was little or no demand for sprats in the home markets.

The foregoing remarks apply only to fish landed by Scottish vessels, and do not cover cod, ling, etc., imported in a wet-salted state from Faroe and elsewhere, of which nearly 50,000 cwts. were cured dried during the year.

## PERSONS EMPLOYED.

The number of persons to whom the Scottish fishing industry gave employment in 1919 was 60,159, an increase of 22,535 upon the total for the preceding year. Of these 27,408 manned the fishing fleet, 8465 were engaged in gutting and packing herrings, 5548 in the carrying trade, 3684 in boat building, and the remainder in various other forms of employment connected with the fishing industry.

## WHALING.

The prohibition of whaling operations in Shetland and Hebridean waters was again continued by order of the Admiralty.

Feeling in the herring fishing industry has been hostile to whaling in Shetland practically since its inception, and soon after the conclusion of the Armistice in 1918, representations began to be received by the Board urging that the prohibition of whaling in Shetland waters, which had been enforced as a war measure, should be made permanent. These protests were not confined to Shetland, but were received from practically every Fishery Association in Scotland, and in view of the strength of the feeling manifested, the Board came to the conclusion that the time had arrived for a further inquiry into the whole question of whaling in Scottish waters.

The Board accordingly appointed a Committee of their members to carry out the inquiry, and evidence was taken from representatives of all sections of the herring fishing industry and of the whaling interests at sittings held in Shetland, Peterhead, and Edinburgh. The Committee, whose report\* was issued in December, recommended unanimously that whaling operations should be prohibited in Shetland, and that the Whale Fisheries (Scotland) Act, 1907, should be so amended as to give effect to this recommendation.

## LOANS TO EX-SERVICE FISHERMEN FOR THE PURCHASE OF MOTOR FISHING BOATS.

Very soon after the conclusion of the Armistice appeals for assistance to enable demobilised fishermen to resume their occupation began to be received from all parts of the coast. These appeals were based on the ground that owing to the deterioration of boats which had necessarily had to be left unattended during their owners' absence on service, the shortage of boats was such that many men found themselves unable to find berths on those which were still fit for sea, while at the same time the output of new boats was almost in abeyance, and the price of those which were being built was beyond the unaided means of the fishermen.

The Board satisfied themselves that these representations were well-founded, and after considering the matter in all its aspects came to the conclusion that the position could best be met by organising a building programme and transferring the boats to fishermen for payment by instalments.

Negotiations were accordingly opened with the Development Commissioners with a view to obtaining funds to enable the scheme to be put into operation, and eventually the Board were successful in obtaining an advance of £13,200 for that purpose. This advance was, however, subject to the stipulations that the vessels to be provided should be built to a specification to be laid down by the Board, and that the machinery of Co-operative Fishery Societies should be used in transferring the boats to fishermen when completed.

Such societies were non-existent in Scotland, and steps were therefore at once taken to draw up model rules for the guidance of fishermen, and to organise the societies. For a time the endeavours made to this end promised to be successful, but in the end they proved

\* Report of the Committee appointed by the Fishery Board for Scotland to inquire into the Scottish Whaling Industry, 1920 (published by H.M. Stationery Office, price 1s. 3d.).



abortive, the innate individualism of the Scottish fishermen proving to be too deeply rooted to be overcome by the arguments put forward in favour of the co-operative idea.

In the meantime no time was lost in taking up the question of boat-building, and enquiries having shown that the shortage of boats was most acute in the Clyde, a specification of a model Lochfyne motor skiff was drawn up and tenders to build were invited from a number of boat-building firms experienced in the construction of this type of vessel.

On the tenders being received it was found that the cost of a boat and motor of the type in view would be about £1100. By this time also the situation in the fishing industry in the Clyde had undergone a radical change owing to the consistently poor quality of the herrings obtained. The season had been exceptionally unfortunate, many men having been compelled to seek other forms of employment in order to obtain a livelihood, and it was found that none of the fishermen was now prepared to undertake the heavy responsibility of taking a vessel at so high a price. The Board had therefore no alternative but to decline the tenders.

They remained nevertheless convinced that assistance in some form was still a pressing necessity, and as it was clear that the stipulations which had been laid down as a condition of the advance were too rigid, in view of the changed position of matters in the fishing industry, it was decided to apply for a relaxation of the conditions to enable loans to be made direct, and to assist fishermen in installing motors in existing sailing boats, to purchase suitable second-hand motor boats, or to build boats to their own specification.

A representation on these lines was accordingly made to the Development Commissioners, at which stage the matter rested at the close of the year.

#### DISPOSAL OF ADMIRALTY VESSELS TO EX-SERVICE FISHERMEN.

At the end of the war the Admiralty were left with a large number of steam trawlers and drifters, either completed or in course of construction, which had been ordered for naval purposes, but which were no longer required, and with a view to recognising the valuable services which had been rendered by fishermen during the war, it was proposed that fishermen who had been on service should be afforded an opportunity of acquiring them on reasonable terms.

This proposal was remitted to a sub-committee of the Admiralty Reconstruction Committee (of which the Board's Secretary was a member) by whom the question of the most suitable basis for a scheme such as that in view was exhaustively considered.

A number of conferences of representatives of the Departments concerned were subsequently held in London, and it was ultimately arranged that 160 drifters should be transferred by the Admiralty to the Fishery Departments for sale to ex-service fishermen on the instalment system, and that 200 trawlers should be offered on similar terms to a company to be formed of ex-service fishermen.

It was agreed that the drifters should be divided between the Board and the English Fishery Department in the ratio of 3:2, and the Board immediately proceeded to draw up a detailed scheme for the disposal of

the vessels allotted to them. This scheme had not been formally sanctioned at the close of the year, the question of the values to be placed upon the vessels not having been finally decided, but pending that decision a number of drifters were hired, as a temporary measure, to ex-service fishermen for employment in the ensuing West Coast winter herring fishing.

#### EEL FISHERY DEVELOPMENT.

An account of experiments which were carried out during the year in order to ascertain the possibilities of developing eel fishing in Scottish rivers will be found in the report of the Inspector of Salmon Fisheries (p. 67). Unfortunately these experiments were not attended with the successful results which had been anticipated.

#### OVERSEAS MARKETS FOR HERRINGS.

Among the suggestions made in the Memorandum on Post-War Problems, published as an Appendix to the Board's last Report, was the desirability of extending the markets for cured herrings abroad. The need for such development was further emphasised last year by the great difficulties experienced by the industry owing to its practical dependance on the German and Russian markets. Through the good offices of the Department of Overseas Trade a questionnaire prepared by the Board has now been put before the representatives of that Department in the principal countries in the south of Europe, in Asia, in Africa, and in North and South America, which, it is hoped, will be successful in eliciting information which may lead to a widening and stabilising of the demand for Scottish cured herrings. The points on which information has been sought are as follow :—

1. Extent of existing trade in cured herrings, if any.
2. Sources from which herrings are at present obtained.
3. Prospects of extending existing trade and suggestions as to best methods of doing so.
4. Prices per barrel, etc., realised.
5. Where no trade at present exists, prospects of creating one.
6. Most suitable size and type of package.
7. Weights and measures adopted and their British equivalents.
8. Import Duties.
9. Most suitable means of transport and ocean transport facilities, and whether refrigerating plant installed in steamers or at landing ports.
10. Method of cure, *e.g.* pickled in brine, canned, smoked, etc. (bloaters, red herrings), most likely to be in demand.

#### GRANTS FOR CIVIL LIABILITIES.

The administration of the scheme of Government grants to enable men, who find themselves in straitened financial circumstances as a result of their service in H.M. forces during the war, to resume their civil occupation is entrusted to the Military Service (Civil Liabilities) Department, but by an arrangement made at the request of that



Department all claims for compensation lodged by Scottish fishermen are referred to the Board and a recommendation in each case is made by them after investigation by their local Officer. Grants made in respect of such claims are transmitted through the Board, who undertake the responsibility of ensuring, again through their local Officers, that the amount granted is expended on the purpose for which it is given (usually in the purchase of fishing gear). A large number of the fishermen who had been on service found that their fishing gear had seriously deteriorated in their absence, and while to many this did not involve serious financial hardship, others were quite unable without assistance to resume fishing on a proper scale. The Board were glad to be able to provide the services of a staff intimately acquainted with local conditions and with the fishing industry to undertake this duty. Between 700 and 800 applications had been referred to the Board up to the end of 1919.

#### REVISION OF BRANDING REGULATIONS.

Owing to the circumstances arising from the war the Board's system of inspecting and branding cured herrings had been practically in abeyance since 1914, but in anticipation of the needs of last season the Regulations on the subject were revised before the commencement of the summer fishing. The Regulations in their general form have proved during a long series of years well adapted for the end in view, and only slight adjustments were again made. Herrings for the "La Full," "Full," and "Mat. Full" Brands were no longer required to be "full of milt or roe," but instead had to be "well-developed fish . . . whether full of milt or roe or not," although "half-run" herrings were specifically excluded. The "Filling" Brand, being covered by this definition, was discontinued. The restrictions as to the period of the year during which herrings must be cured to be eligible for the various brands were withdrawn, the question of suitability or otherwise being now left entirely to the discretion of the branding officers. In addition the period of pining between curing and final filling up was reduced, while a slight increase was made in the minimum size of herring eligible for the "Mat. Full" Brand.

#### COMMITTEES DEALING WITH FISHERY MATTERS.

As representing Scottish fishery interests the Secretary of the Board continued to act during 1919 on the Scottish Sea Fisheries Committee, the Food Investigation Board, and the Admiralty Reconstruction Committee, to which reference was made in our last Report, and in addition was appointed during the year a member of the Rural Transport (Scotland) Committee.

#### PROSECUTIONS FOR ILLEGAL TRAWLING.

During the year 1919 the number of prosecutions for illegal trawling round the Scottish coasts was 16, from which 15 convictions resulted.

The Board's cruisers which were demobilised from Admiralty Service at the beginning of the year and after reconditioning resumed

their normal patrol duties, detected 11 of the cases, and the remaining 5 detections were made by fishermen. In one of the cases brought to trial the verdict was "Not proven."

The locality in which the greatest number of cases occurred was the Moray Firth where there were 9 detections. Next in order came the Firth of Clyde waters with 4, the Solway Firth with 2, and the Outer Hebrides with 1.

#### IMPROVEMENTS OF FISHERY HARBOURS.

A report for the year by the Board's Consulting Engineer on work on improvement schemes for fishery harbours is printed as Appendix I. p. 1.

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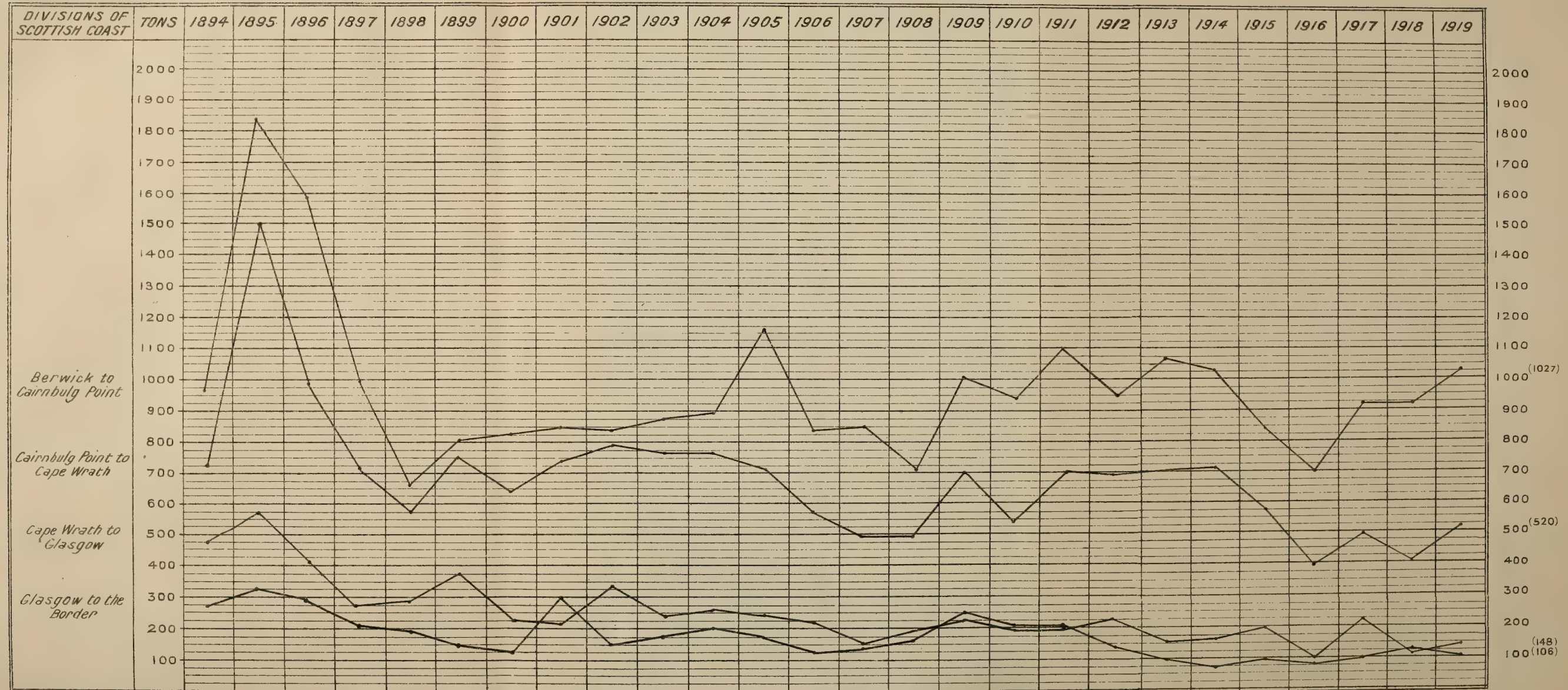
### PART II.

#### SALMON FISHERIES.

The total weight of salmon and sea trout carried by rail and sea in Scotland in 1919 was 1802 tons 19 cwt. While this figure is 234 tons better than the total for the preceding year, and 151 tons above the figure representing the last quinquennial average, it has to be regarded as a distinctly low one in view of the possibilities of the Scottish Salmon Fisheries. It is now possible to compare five quinquennial averages, viz., 2771, 2034, 1865, 2056, and 1651 tons, and the downward tendency of these figures reveals a condition which cannot be regarded as satisfactory. The returns from which these averages are made are supplied from the same source and in the same manner. They are not, unfortunately, returns showing the numbers of fish caught, or the number of fish sent to market, but merely the weight of fish carried to market. During last season, grilse and sea trout were more numerous than for a few years, but a considerable increase in the number of those light fish is not readily reflected in a return of weight. We are unable to state, therefore, what proportion of the rise in total may be attributed to adult salmon. The fluctuations of the return, for the four usual divisions of the coast, are set forth in the accompanying chart of curves. This return is for 26 years, and the details of the five averages together with the figures for 1919 are given in the form of a table. A chart showing graphically the curve for the averages, and the last season's return, will be found in the report of the Inspector of Salmon Fisheries (p. 63).



CURVES SHOWING APPROXIMATELY THE TONS OF SALMON CARRIED BY  
SCOTTISH RAILWAYS & STEAMSHIPS SINCE 1894







District.	Average, 1894 to 1898.				Average, 1899 to 1903.				Average, 1904 to 1908.				Average, 1909 to 1913.				Average, 1914 to 1918.			
	Tons.	Cwts.	Qrs.	Lbs.	Tons.	Cwts.	Qrs.	Lbs.	Tons.	Cwts.	Qrs.	Lbs.	Tons.	Cwts.	Qrs.	Lbs.	Tons.	Cwts.	Qrs.	Lbs.
<i>a</i> Berwick to Cairnbulg Point	1,206	18	1	1	839	1	2	9	887	8	2	24	1,015	5	3	18	884	1	3	17
<i>b</i> Cairnbulg Point to Cape Wrath.	900	17	3	6	737	10	3	17	608	13	1	19	664	14	-	3	518	8	3	17
<i>c</i> Cape Wrath to Glasgow . . . .	403	7	1	21	274	13	1	27	209	3	3	6	205	2	-	7	157	8	3	10
<i>d</i> Glasgow to the Border . . . .	260	3	2	6	183	6	1	19	160	9	3	15	171	13	1	3	91	12	-	-
Totals . . . .	2,771	7	-	6	2,034	17	1	16	1,865	15	3	8	2,056	15	1	3	1,651	11	2	16

District.	Year 1919.			
	Tons.	Cwts.	Qrs.	Lbs.
<i>a</i> Berwick to Cairnbulg Point	1,027	13	2	12½
<i>b</i> Cairnbulg Point to Cape Wrath	520	6	-	8
<i>c</i> Cape Wrath to Glasgow . . . .	148	4	1	1
<i>d</i> Glasgow to the Border . . . .	106	16	-	-
Totals . . . .	1,802	19	3	21½

We consider it unfortunate that no return of rod-caught fish is available. Although the total may be insignificant as compared with the coast netting return, it would be extremely valuable as showing the beneficial results to the rod from the removal of river nets, and therefore the increase in the potential stock of breeding fish. We have consistently advocated the policy of developing as far as possible the coast salmon fishing, and of confining the use of sweep nets in rivers and estuaries so as to allow a proportion of every run of fish to ascend to the fresh waters, their natural and only spawning grounds.

It appears that in the case of several rivers where sweep netting has been reduced, a satisfactory increase in the number of fish has resulted. The Inspector in his report, herewith, states that there are comparatively few rivers in Scotland in which, nowadays, netting is carried on to excess, but he points out that, from the decline in the general market supply, it would appear that the breeding stock is insufficient to maintain a satisfactory catch.

From the results of the Salmon Research, interrupted by the war but now happily recommencing, it has become sufficiently clear that in spite of the well-ascertained homing instinct of the salmon, the nets on one part of the coast may be operating amongst fish from a different district. One of the main objects in the investigations now being resumed is to ascertain if possible how far movements of fish along the coast are likely to affect the stock of given districts. In 1915, for instance, when the experimental nets were fishing at Kintradwell, on the east coast of Sutherland, a large number of the marked fish were recaptured on the east coast of Caithness, while some had penetrated to the Pentland Firth. It is proposed to follow up as far as possible this northward movement of fish, and by marking them at a point further north and again releasing them, to ascertain their further movements.

While a reduction of netting in certain rivers may certainly bring about a reduction in the weight of fish sent to market from those districts, it is nevertheless true that only by a large increase of stock from our rivers can an abundance of salmon be available for capture on the coast. It is, of course, vital to the future of the salmon fisheries that a large breeding stock be fully maintained.

It is highly desirable that regulative treatment should be so adjusted that the stock of fish from any one river may not be seriously depleted by netting either in the same or in another district. There is marked practical value, therefore, in ascertaining how far salmon may be recognised as belonging to separate local races, and how far these races may move along the coast. The full understanding of this question is still rather obscure, and a good deal of further investigation is required, but it is clear that the range of fish from any one river may be wide, and that after fish have come in from the open sea, and struck the coast, their movements along the shore may be extensive; bag nets are fished at points far from any river influence, as, for instance, along the coast of East Lothian, or on the south shores of Fife. Also it is noticeable that large takes of salmon are regularly obtained in localities where a neighbouring river cannot possibly be the source of all supplies.

We believe, however, that the amount of research already carried out enables a wider view to be taken of the various factors which have to be considered in any just appreciation of future regulative treatment.

The general policy of keeping our rivers comparatively free of nets is now very largely followed by proprietors and others who are specially concerned in the upkeep of salmon stock. The actual removal of nets has to be carried through entirely by the goodwill and agreement of those who possess the rights of fishing.

If overnetting in fresh water can be described as present only in comparatively few districts, the other marked factors in the case come into prominence. These are pollutions, abstraction of water, and obstructions to the ascent and distribution of fish.

While these appear to be recognised as the leading factors, apart from overnetting in rivers, and it seems right that they should be mentioned here, the existing statutory powers of the Board are insufficient to enable them to take action in regard thereto. We may state, however, that in connection with the use of water for the generation of electric power, the Inspector of Salmon Fisheries attended before the Water Power Resources Committee and gave evidence.

There are thirty-eight District Fishery Boards in existence in Scotland, including the Police Committee of the Tweed Commissioners, and these make annual reports to the Inspector of Salmon Fisheries. During the years of war, in view of the necessity of curtailing the amount of printed matter, these were not published, and for this year also we follow the same practice.



## PART III.

### SCIENTIFIC INVESTIGATIONS.

During the year 1919, the scientific investigations in connection with the sea fisheries were carried on under the supervision of Dr. T. Wemyss Fulton, the Board's Scientific Superintendent, as far as possible on the same general lines as in previous years. With a staff still considerably reduced, the research work was conducted at the Marine Laboratory at the Bay of Nigg, and in the laboratory at the Old Post Office, Aberdeen, and the inquiries relating to the herring and the herring fishery in Loch Fyne were carried on as circumstances allowed, in continuation of the observations of preceding years.

The research steamer "Goldseeker," which was employed during the war on Admiralty service, was reconditioned for scientific work, and, after some difficulties in regard to the steam-winch were overcome, left Aberdeen for the Moray Firth on the 11th July. Since that time, it has been employed in carrying on the scientific investigations at sea, as in the years before the war.

### THE HATCHING OPERATIONS.

Although the stock of adult plaice in the spawning pond at the Hatchery, Bay of Nigg, Aberdeen, has not been renewed or added to since 1913, a fair number of fish remain, and they spawned as usual in the early months of the year. It is estimated that about 2,000,000 fertilised eggs were collected from the spawning pond, between the middle of February and the early part of April. Allowing for the number which died in the hatching boxes at one stage or another, about 1,700,000 plaice fry were produced, and liberated in the sea in the neighbourhood of Aberdeen.

Since the hatching of the plaice was begun at the Bay of Nigg, the number of eggs which has been dealt with in the Hatchery is approximately 448,000,000, and over 350,000,000 fry of the plaice have been added to the sea to enrich the inshore grounds. The hatching work entails an inconsiderable expenditure, since it is carried on in conjunction with the other work of the Marine Station, involving some extra pumping and a small expenditure in putting out the fry.

### THE INVESTIGATIONS ON THE HERRING FISHERY IN LOCHFYNE.

The investigations with respect to the failure of the Lochfyne herring fishery for a number of years were carried on in 1919 as in previous years, observations being made on the temperature of the water at different depths and on the abundance of "plankton," the minute floating life which forms the chief food of the herring.

It was mentioned in the Report for 1918 that in the latter part of that year, especially in October and December, considerable catches of herrings were obtained in the lower part of Lochfyne; and that in December the shoals penetrated farther into the loch than they had done for seventeen years. It was also stated that the fishermen

reported a good appearance of herrings of small size in upper Lochfyne, and the hope was expressed that the presence of great numbers of small herrings so far up the loch at the close of the year was an indication that the shoals were about to return.

It is satisfactory to be able to report that this expectation was fulfilled. For the first time for many years, the herring shoals returned to the loch last year in considerable numbers.

As stated in previous Reports, the Lochfyne herring fishery began to decline in a marked manner in 1904, and from that year until 1918 the quantity of herrings taken annually from the loch was very much below the average of former years. In the fifteen years comprised in this period, as will be seen from the subjoined Table, the largest quantity obtained in any year was 36,417 cwts., in 1910. On the other hand, only a few thousand cwts. were secured in 1912, 1914, 1916, and 1918, while in 1917 only 899 cwts. were taken.

Year.	Herrings caught.	Year.	Herrings caught.
1900 . . .	86,600 cwts.	1910 . . .	36,417 cwts.
1901 . . .	101,909 "	1911 . . .	16,352 "
1902 . . .	92,186 "	1912 . . .	7,672 "
1903 . . .	74,193 "	1913 . . .	10,696 "
1904 . . .	27,394 "	1914 . . .	3,216 "
1905 . . .	16,352 "	1915 . . .	13,399 "
1906 . . .	18,403 "	1916 . . .	2,576 "
1907 . . .	13,699 "	1917 . . .	899 "
1908 . . .	14,245 "	1918 . . .	5,763 "
1909 . . .	12,894 "	1919 . . .	41,973 "

In 1919, the catch amounted to 41,973 cwts., which, although much larger than in any year since 1903, is less than half the quantity taken in 1902. The catch in each of the months of 1919 was as follows:—

January . . .	22 cwts.	July . . .	6,022 cwts.
February . . .	94 "	August . . .	2,139 "
March . . .	255 "	September . . .	4,742 "
April . . .	39 "	October . . .	10,539 "
May . . .	33 "	November . . .	9,114 "
June . . .	1,820 "	December . . .	7,154 "

It will be seen that the quantity taken increased towards the end of the year, although it was considerable in July, and it may be added that in January 1920, 10,213 cwts. were landed. It is to be hoped that the increase last year is the prelude to the return of the herring shoals to Lochfyne in their former abundance.

Sufficient information is not yet available in regard to the temperatures and plankton to bring the variations in these factors into relation with the catches of herring in the different years. There were no serial observations in the years preceding 1904, which might be compared with the observations made in the years when herrings were present in such small numbers. The observations are now being continued, so that data will be available for last year and the next year or two, for comparison with the observations of the previous fifteen years. It will then be possible to show whether any variation in temperature or in the abundance of plankton can be correlated with the presence or absence of the herring shoals.



# FISHERY INVESTIGATIONS IN THE NORTH SEA.

During the latter half of the year, the research vessel, the "Gold-seeker," was employed in carrying on the trawling and other investigations in the Moray Firth and the Firth of Forth. The stations situated farther from shore in the North Sea were not visited during this period, partly owing to the risk which existed from the presence of mines. Later in the year, an investigation was begun with special reference to the distribution of young herrings in the inshore water along the East Coast, in connection with the scheme of herring investigations promulgated by the International Council for the Scientific Exploration of the Sea. The collections made by the "Goldseeker" in the course of the investigations are being worked up at the laboratories, and, amongst other researches in progress, are a study of the age and growth of the herring and lemon sole, based chiefly on the scale markings, the distribution of pelagic eggs and larval and post-larval stages of the food fishes, and the distribution and migrations of the edible crab. Reports are in the press on the eggs and larvæ of the Angler (*Lophius piscatorius*), and on the migrations and growth of the plaice. Special attention is being given to the Moray Firth, particularly in relation to the plaice and plaice fisheries.

## RESIGNATION OF MR. ANGUS SUTHERLAND, C.B.

We regret that, since the termination of the period covered by this report, Mr. Angus Sutherland, C.B., has found it necessary on account of failing health to tender his resignation of the position of Chairman of the Board. Mr. Sutherland occupied the position for upwards of twenty-five years, in the course of which very great developments have taken place in the Scottish fishing industry, and in the Board's work of administration, and we desire to place on record our high appreciation of the eminent services rendered by Mr. Sutherland during his period of office.

As successor to Mr. Sutherland, His Majesty has appointed Mr. David T. Jones, C.B.E., who has been on the Board's staff since 1887, and has been Secretary since 1909.

We have the honour to be,

SIR,

Your most obedient Servants,

DAVID T. JONES, *Chairman.*

W. LYON MACKENZIE, *Deputy-Chairman.*

D'ARCY W. THOMPSON.

BREADALBANE.

JAMES ARCHIBALD.

JOHN H. IRVIN.

MALCOLM SMITH.

GEO. HOGARTH, *Assistant Secretary.*

## APPENDIX I.

## HARBOUR IMPROVEMENT SCHEMES.

REPORT BY MR. R. GORDON NICOL, M.INST.C.E.

I have the honour to submit, for the information of the Board, the following report on the Harbour Improvement Schemes which are being carried out under the supervision of the Board, and were in progress for the year ended 31st December 1919.

The following table gives a list of these harbours, along with the estimated cost of the schemes and the assistance in grants and loans that is to be provided from the funds at the disposal of the Development Commissioners and the Board.

Name of Harbour.	Estimated Cost of Scheme.	Assistance to be Provided.		
		Free Grants.	Loans.	Total.
Eyemouth . . . . .	£4,200	£1,200	£2,500	£3,700
Fraserburgh . . . . .	40,000	20,000	20,000	40,000
Gardenstown . . . . .	9,500	4,000	4,000	8,000
Macduff . . . . .	37,800	19,500	17,500	37,000
Banff . . . . .	8,000	5,750	...	5,750
Whitehills . . . . .	3,000	2,250	...	2,250
Portknockie . . . . .	8,000	3,200	2,800	6,000
Findochty . . . . .	6,700	2,000	1,500	3,500
Buckie . . . . .	57,750	18,000	39,750	57,750
Lossiemouth . . . . .	15,034	3,000	10,000	13,000
Nairn . . . . .	18,000	7,000	...	7,000
Wick . . . . .	31,260	...	31,260	31,260
Total . . . . .	£239,244	£85,900	£129,310	£215,210

*Eyemouth Harbour.*

Work on this Improvement Scheme, for the deepening of the entrance channel of the harbour by the removal of rock, was suspended in 1916 on account of the war, and has not yet been resumed. Differences have arisen between the Contractor and the Trustees in connection with the contract.

The Trustees have made application to the Treasury for financial assistance to enable them to remove a considerable quantity of silt which has accumulated in the harbour, and this application is at present under the consideration of the Development Commissioners and the Board.

*Fraserburgh Harbour.*

Progress on the Improvement Scheme has remained in suspense during the current year.



The Harbour Commissioners have obtained during the year a Provisional Order authorising them to carry out the necessary works for the improvement of the harbour. These include an extension of Balaclava Breakwater for a length of 200 feet ; an extension of the South Breakwater for a length of 150 feet ; the reconstruction of Burnett Pier ; the completion of Walker Quay ; the deepening of the Entrance Channel ; the strengthening of the existing quay wall at Steamboat Quay ; the removal of the point of the North Pier ; and the completion of the apron at Balaclava Quay.

The Harbour Commissioners have also prepared a scheme for the provision of a slipway with side-slipping berths entering from Faithlie Harbour.

The Commissioners have applied to the Treasury for financial assistance from the Development Fund to enable these works to be carried out, and the matter is under the consideration of the Board.

#### *Gardenstown Harbour.*

Work on this Improvement Scheme, which was suspended in 1916 on account of the war, has not yet been resumed.

#### *Macduff Harbour.*

This Improvement Scheme continues to make steady progress. During the year the slopes at the east end of the new harbour basin have been formed and partly pitched with large facing stones, 6759 cubic yards of rock and 8473 cubic yards of soft material have been excavated from the new basin, the rock being drilled with pneumatic tools and blasted out with explosives, portions of the inner wall of the breakwater and parapet wall have been completed, and 2730 square yards of concrete decking have been laid on the North Quay. On several occasions the new basin was flooded by the waves breaking over the sea wall during storms, causing considerable damage to the plant and some delay to the works.

The scheme is now nearly completed, but owing to the enormous increase which has taken place in wages and the cost of materials, the available funds will be insufficient to complete the scheme, and the Town Council are making application to the Board for further financial assistance.

The Council have prepared a scheme for providing a slipway at the east end of the new basin with side-slipping accommodation for eight drifters, and have made application to the Board for financial assistance to carry out the works.

Payments amounting to £4331, 12s. 9d. by way of free grant, and £3000 by way of loan were made to the Council from the Development Fund during the year.

#### *Banff Harbour.*

This Improvement Scheme, which is for the deepening of the inner harbour basin and the refacing and repair of the quay walls, is almost completed.

The East Pier has been faced with a new concrete wall for a length of 140 feet, and the roadway of the pier has been raised to suit the new levels of the quays ; the South Quay wall has been underpinned and repointed for a length of about 260 feet ; the work of excavation was completed in August, and water was admitted to the inner basin, the cofferdam being then cleared away, and the basin brought into permanent use.

During the year payments amounting to £2365, 2s. 8d. were made to the Trustees from the funds of the Board.

*Whitehills Harbour.*

Work on this Improvement Scheme, which was suspended in January 1915 on account of the war, was resumed in August this year. The new concrete jetty has been completed, and the inner wall of the old jetty has been underpinned with concrete bagwork.

No payments have been made this year to the Harbour Commissioners from the funds of the Board.

*Portknockie Harbour.*

This Improvement Scheme has been in abeyance on account of the war. The Engineer is now preparing a modification of the scheme to meet the altered conditions due to a large increase in the local fleet of herring drifters.

*Findochty Harbour.*

Owing to the war this Improvement Scheme has not been proceeded with, and it is at present under revision by the Harbour Commissioners.

*Buckie Harbour.*

Progress on this Improvement Scheme has been slow. A commencement was made with the formation of the roadway of the North-West Pier, and the surface layer of concrete was laid over an area of 496 square yards; the repair of the pier foundations by divers and the repointing of the defective joints were carried out when weather permitted, but the operations were frequently interrupted through bad weather; the east portion of the roadway of the South Quay was lowered to suit the levels of the new harbour jetties, and the gas and water mains were at the same time renewed; an approach road to the North-West Pier was formed for a length of 110 yards, and the irregular bottom of No. 4 harbour basin was trimmed to slopes for the beaching of fishing vessels during the winter.

The financial aspect of the scheme continues to engage the attention of the Town Council, as the expenditure on works has exceeded their financial resources. They have submitted a statement of the financial position, which is at present under the consideration of the Board.

No payments have been made to the Council this year from the Development Fund or from the funds of the Board.

*Lossiemouth Harbour.*

Work on this Improvement Scheme is still suspended.

The Contractor has intimated a claim for extra payment on account of the great increase in the cost of work due to war conditions, and proposals are at present under consideration by the Harbour Commissioners for the completion of the scheme.

No payments have been made to the Commissioners this year from the Development Fund.

*Nairn Harbour.*

This Improvement Scheme is still under the consideration of the Town Council.

*Wick Harbour.*

The work in connection with the special repairs for securing the piers and breakwaters has made slow progress this year owing to labour conditions and bad weather. The new concrete face wall in front of the Jetty



has been completed, the portion executed this year being 213 feet in length. Preparations have been made to begin the reconstruction of the North River Pier. The workmen have been periodically employed quarrying and crushing rock and dredging sand for concrete work.

Payments from the Development Fund amounting to £4839, 8s. 4d. have been made to the Trustees by way of loan during the year.

R. GORDON NICOL,  
*Consulting Engineer.*

## APPENDIX II.

ANNUAL REPORTS BY INSPECTORS OF SEA FISHERIES  
AND FISHERY OFFICERS.

## GENERAL INSPECTOR.

The condition of the fishing industry, like that of many other industries, continued rather unsettled in the year 1919. Large as was the money value of the various kinds of fish landed in Scotland during the year, it might have been much larger but for the strikes among trawl fishermen in Aberdeen and Granton. In the former place the strike lasted for ten weeks, while in the latter the vessels were laid up for seven weeks, and not only had this state of matters a detrimental effect upon the industry, but the community as a whole suffered in consequence. It is computed that a sum of £600,000 was lost to the industry, while the general public suffered from the loss of a large supply of fish which would have otherwise been landed. During the strikes the buyers were also adversely affected, and in order to keep in touch with their customers they obtained consignments of fish from the south even at a loss to themselves.

The figures with regard to the total quantity and value of fish landed, especially the former, show large increases when compared with those of the year 1918. This furnishes clear evidence of the rapidity with which the fishing industry is recovering from the effects of the war. The total landings for the year show an increase of 80 per cent. over those of the year 1918. Although the total value also shows an increase the comparative value of the fish shows a falling off of 44 per cent. It was not to be expected that the prices realised during the last year of the war could have continued. Yet, on the whole, they were such as to give satisfactory results to fishermen engaged in all the branches of the industry.

There is no doubt that remarkable success has accompanied the efforts made to put the nation on a peace basis again. The reabsorption of men into industry has gone on steadily since the armistice. The fishing industry bears out this statement, the number of fishermen employed having increased since 1918 from 15,416 to 27,408. It augurs well for the future that these men should, after experiencing the hardships of war, return again to the hazardous calling in which they were before engaged. There has thus been no lack of hands to man the boats. It may be, however, that many men have been attracted to fishing since demobilisation who previously had no experience. In fact there have been complaints that men have been shipped and afterwards found to be inexperienced, and some system of apprenticeship may have to be introduced.

The same increase is noticeable in the fishing fleet. So rapidly are the vessels and boats resuming operations that it is expected that the fleet, before the end of 1920, will be up to pre-war strength. Altogether there were 6534 boats actually engaged in fishing in 1919 compared with 4614 the previous year, being an increase of 1920.

For many years, when the boom in steam drifters was at its height, fishermen failed to recognise the true value of the motor engine in fishing boats. The opportunity for development in this direction, however, came when the steam fishing vessels were taken over by the Government for national work, and the building of steam drifters practically ceased. The war may be said then to be directly responsible for the remarkable increase



in the number of Scottish fishing boats equipped with motor engines. How rapid the advance has been is shown by the fact that in 1913, the year before the war, there were only 523 motor boats on the register. Now the number is 1751, an increase of 1228. Of these 414 have been added since 1918.

The fact that many drifters and trawlers have still to be reconditioned, and that vessels of the most modern type and new methods of working are now engaging the attention of large combines and capitalists, proves undoubtedly that the catching power is not yet at anything like its full strength. The country may, therefore, look forward with confidence to an increase in the fish supplies in the year 1920. The danger is that unless facilities for distribution and marketing are adequate, prices may fall to such a level that fishermen will not find it profitable to pursue their calling owing to the great cost of production.

With regard to the home markets, they were greatly developed during the war, and it is safe to state that the consumption of all kinds of fish is increasing. Evidence of this is to be found in the large number of kippering establishments which have been erected during the last two or three years, and which send out large supplies of kippered herring all over the country. Increased consumption is also due to the development of a retail fish trade in towns and inland centres where, previous to the war, fish was seldom seen. This increasing demand for fish was due in the first instance to the scarcity of other food supplies inevitable in war, and it now continues because the value of fish as food has been recognised. This home demand, it is confidently hoped, will still further develop and increase to such a degree that the problem of markets will be partly solved. The transport question is, however, a very difficult one. The use of motor vans might be made very effective. It is interesting in this connection to find that one of the energetic young fish merchants of Aberdeen has got six motor vans for conveying fish to inland centres for distribution among wholesale and retail firms. This distribution system ought to be developed in districts which are away from the main railway line, and it is understood that certain firms have schemes to this end in contemplation. Proposals have been made to establish motor fleets of specially designed vans, which will make regular journeys to country villages and localities where fish is more or less scarce.

With regard to the trawling branch of the industry, as already stated, the only serious setback from which it suffered was due to labour troubles. The loss and dislocation of business caused thereby cannot well be estimated. Fish merchants made every endeavour to maintain their trade connections, with consignments from towns and villages along the coast, while haddocks and plaice came even from Ymuiden *via* Harwich and London. English trawling ports as well as small-line fishermen therefore profited by this stoppage of fishing at Aberdeen and Granton. Notwithstanding all these drawbacks, the total quantity and value of fish landed by trawlers show an increase of 906,939 cwts. and £814,452 over the year 1918.

Since the end of the war some fishing companies and private trawl owners have sold out owing probably to the uncertainties of the industry, but tempted also by the greatly enhanced prices for fishing vessels. The interests of one of the most important companies at Aberdeen—The Aberdeen Steam Trawling and Fishing Company—were acquired by the Mac Fisheries Company, but as yet the business of this new company has been conducted at Aberdeen without any change.

A feature of the year was the greatly enhanced prices at which vessels were sold. For instance, a trawler built in 1915 was advanced from the first cost of £8200 to £18,000, and a 1916 trawler which was built for

£11,200 went to an English port for £19,500. On the other hand, small yachts converted into fishing vessels during the war were saleable only at a very considerable loss, a vessel, for example, which cost £1000 changing ownership at £200.

Apart from the upkeep of vessels and gear and also the wage bill, which has been more than doubled since 1914, settling expenses of a fishing voyage as affecting share fishermen have been greatly increased. The cost of coal rose to 6ls. 6d. per ton, and about 5½ tons per sea day are required by an average long voyage North Sea or Faroe going vessel. To keep down expenses voyages have been prolonged to 10 and 12 days and even longer for North Sea and "West Side" trips during the winter months. Formerly when coal was cheap, a skipper would not have hesitated to run to market with a comparatively light shot during stormy weather, but now it is found expedient to keep on the grounds until a good catch has been placed "under the hatches." Thus it will be seen that increased landings per voyage cannot always be regarded as indicating that fish are now more plentiful. The real criterion is "actual time fishing."

In reviewing the great summer herring fishing one cannot but marvel at even the partial success which attended it. The disorganisation caused by the war could not be put right in a day, while the outlets for herring closed by the war remained so for the most part and prevented the restoration of pre-war conditions. At the beginning of the East Coast herring fishing therefore the difficulties in the way of reconstruction appeared so great that the Government was appealed to to adopt a scheme which would guarantee the fishermen a fair price for their fish, and the curer who cured them for exportation a price which would safeguard him from loss. The scheme sanctioned by the Government formed one of the chief features of the herring industry of 1919, and as the herring fishing is of paramount importance to the fishermen, it will be easily realised how the Government Guarantee Scheme was appreciated. Yet owing to the low average price per cran the results for the season were not profitable. The curers did not adhere to the recommended minimum price of 35s. per cran, and in some respects the fishermen themselves were to blame for this. They admittedly commenced the fishing too early, and but for the cessation of operations for nearly two weeks in the middle of June matters would have been much worse than they were. It may be claimed, however, that on the whole the results achieved have justified the Government in coming to the aid of the industry.

As both the fishermen and curers of Scotland extend their operations to England, the English Guarantee Scheme for Yarmouth and Lowestoft was equally essential to our Scottish fishermen and curers. It may not, therefore, be out of place to make a few remarks here on the benefits derived from the scheme by the many fishermen, curers, and workers who proceeded to the East Anglian fishing. The fishermen on the whole had a good season, although the loss of netting was exceedingly heavy. The earnings varied considerably, ranging from a few hundred pounds to as many thousands, the average being about £1000. The women workers and coopers had high earnings, and though the season was a strenuous one, owing to the severe weather which prevailed, they all seemed well satisfied with the season's results.

Several circumstances combined to make the English scheme a success. The chief factor was the comparatively small quantity landed, and for this the main cause was the unfavourable weather. This kept prices at a very high level, the average per cran to fishermen being about 50s. For curing purposes it stood at 48s. 6d. Other important factors in favour of the scheme were the uniformity of the quality of the herrings, and the cool



period of the year which enabled the committee in charge to fix a uniform price for the cured article. All these factors contributed to make the scheme a success, a fact that was much appreciated by the fishermen.

Had the weather been favourable it is questionable if all the fish that such a large fleet would have brought ashore could have been dealt with by the existing staffs of buyers and workers.

In pre-war years an extensive trade was carried on with Germany in fresh herrings put up in ice and salt. Last season the trade in this respect was negligible. Pickling was largely in the hands of Scottish curers, who were formerly dependent for the disposal of their goods upon the markets of Germany and Russia. These markets for pickled herrings are meantime practically closed owing to the financial positions of these countries. A sudden collapse, however, of the evils which are at present hindering the development of Russia may take place at any time, and there will then be no limit to the possibilities of Russia as a herring market. With wonderful powers of recuperation she would rapidly recover from her terrible wounds, and the work of reconstruction might be confidently expected to proceed apace.

In the meantime the only thing left to the trade is to endeavour to open up new markets. They should not be difficult to find, but they would require a great deal of developing and opening up. British curers might endeavour to secure a share of the trade which Holland monopolised for many years by putting up herrings in kegs and exporting them in large quantities to the United States and Canada. It is assumed that this is a branch of the fish-curing trade from which the Dutch have ousted British curers and exporters, but surely this is a false assumption.

Some curers have been doing a large and lucrative business recently by exporting ungutted herrings to France and Belgium. These on arrival are converted into reds, and this of late years has proved to be a growing industry. Scottish curers should endeavour in future to continue and develop this trade, which would absorb a large quantity of herrings annually.

An increasing proportion of pickled herrings is now exported to America. Here again there is room for development.

At one time during 1919 difficulties as regards wages and conditions of employment were experienced in connection with the herring curing industry. Fortunately the satisfactory settlement of the wages question brightened up the coopering trade, and all the men settled down to work with cheerfulness and confidence. The difficulty, however, in obtaining stock for the herring fishing of 1920 will be a matter which will no doubt concern the curers. There is a serious shortage of raw material, such as stave wood and hoops, and owing to the lack of transport these will be difficult to obtain. So great are the difficulties and uncertainties in securing supplies that curers and barrel manufacturers are seizing every opportunity of purchasing materials for the purpose of future output.

The great-line season was never attended with more profitable results. Catches of cod, ling, and skate were not exceptionally heavy, but the demand was very keen. Wonderful shots of halibut, however, came from grounds which had been considered depleted before the war, and it is anticipated that such North Sea areas as the "Patch," the "Reef," and the Viking Bank, which were still bestrewn with mines in the spring and early summer of 1919, will yield great results in 1920.

The results of the small-line fishing were not so remunerative as in 1918. Although the total landings show only a slight falling off, there has been a considerable decrease in the value, the average per cwt. being only a little more than half that of the previous year. A feature of the small-line fishing has been the great increase in the number of motor boats employed.

Bait for the most part was scarce, due largely no doubt to the neglect of mussel beds.

Although the year's operations on the West Coast may be regarded as satisfactory, yet the earnings of the fishermen fell far short of the previous year. This was chiefly due to the fact that most of the herrings landed were small and of inferior quality, and in consequence realised low prices.

WALTER DUFF,  
*General Inspector of Sea Fisheries.*

FISHERY BOARD FOR SCOTLAND,  
EDINBURGH, 10th February 1920,

#### ASSISTANT INSPECTOR.

During the year 1919 the various fisheries in the group of districts which extend from Stornoway to Fort-William on the West Coast, and from Banff to Shetland on the North-East Coast, were prosecuted on a more ambitious scale than has been the case since 1914. Taking the season as a whole, the results so far as concerns the catch may be regarded as fairly satisfactory. The fishermen, however, despite the increased landings, did not fare so well as was generally imagined. The heavy working expenses and the increasing price of all necessary material militated against profit making; consequently 1919 from an earning standpoint may be classed as only a moderate season.

The total catch of all kinds of white fish landed in the districts under review was 802,289 cwts. more than in 1918. Notwithstanding this substantial augmentation, the value shows a shortage of £445,084 from that of the previous year. This decline in value may to some extent be attributed to the herring catch, which it is interesting to note represents fully 70 per cent. of the total catch, for although fair prices were obtained during the year they did not reach the phenomenal figures for 1918, when control was not in operation.

At the outset the prospects for the year were far from encouraging, and it was feared that owing to the unsatisfactory state of the continental markets and the low rate of exchange there would be no herring fishing. However, with the aid of the Government a guarantee scheme for the benefit of both fishermen and curers was introduced, and the season opened with considerably brighter prospects. The effect of making such an early start was seen later on when owing to immature fish preponderating in the catch curers held off and prices in consequence fell. This was resented by the fishermen, who discontinued fishing for some little time until better prices were guaranteed. The general opinion of the trade was that the fishermen were out to catch quantity and not quality. At all events they continued to use the small meshed nets, and never attempted to regulate supplies by even a moderate reduction in the number of nets employed.

The most outstanding feature in connection with the means of capture is the continued increase in the number of boats throughout the various districts that have been fitted with motor engines. The "power unit" has indeed become a necessity to both herring and lining fishermen, and to-day the demand is greater than ever. Opinions differ as to whether the motor boom will continue, especially when all the trawling and lining vessels are again fishing, but there is one thing certain, and that is that the fishermen, who have learned the value and reliability of the auxiliary motor, will never again be totally dependent on sail.



A considerable number of the large sailing boats at the various ports have been discarded and broken up as unseaworthy, and very few of this class are now left for the installation of motor power.

A good many steam drifters have been sold at the Moray Firth ports after having been reconditioned for fishing on their return from Naval service at prices up to £6000 for first-class vessels.

Very few steam drifters were built during the year, as almost all the boat-building yards were busily employed on reconditioning work for the Admiralty.

On the West Coast the winter herring fishing was carried on with fair success in the districts of Fort-William and Stornoway until the end of March, but at all the other districts situated in the Minch the results were rather disappointing owing to stormy weather. The grounds generally fished were between Stoer Head and Cape Wrath, and the quality was good. The total catch for all the districts shows a decrease in quantity of 61,797 crans, and in value of £398,058 when compared with the preceding winter's figures. The average price realised per cran was about 75s. against 92s. in 1918. Nevertheless, the earnings made by steam drifters averaged about £2000, and by motor boats £1100. The whole catch was kippered and freshed.

The early summer herring fishing started in the beginning of April in the districts of Fort-William, Loch Carron and Skye, and Loch Broom, but was not attended with such good results as in 1918. Fair catches were obtained to start with, but the fishing fell off, and the stranger boats all began to leave for the East Coast, which completely spoiled the season's fishing. A few boats that remained on did remarkably well and received high prices for their fish. The quality of the herring was very poor at the beginning of the season, but by the middle of June the quality had improved, fine large matjes being taken. Almost the whole catch was sent to the home markets in a fresh state or kippered, only a very small proportion being cured.

The Stornoway herring fishing opened early in May, and was a comparative failure until the end of June, by which time all the East Coast boats had left to fish at their own home ports. The fishing was then carried on by a fleet of about 60 local motor and sail boats, with fairly good success, until the close of the season. The quality was of a mixed character throughout, especially in May, when kippers were selling as low as 1s. per box. The season's catch turned out better than expected, showing an increase in quantity of 10,263 crans, but a decrease in value of £11,402 compared with 1918. The average price per cran was only 44s. as against 78s. in the preceding year. The curing branch of the industry was carried on on a very limited scale owing to the uncertainty of the market for cured herrings, and the difficulty and expense of transporting stock. All the best selections cured went to America, but the bulk of the matties was branded and handed over to the Government.

Owing to the inadequate facilities for carrying fish to market, a steam drifter was chartered by a local syndicate to convey kippers, etc., to Kyle and Mallaig, returning with smoking material and boxwood. The terms of the charter were understood to be £120 per week.

In Barra district, the herring fishing was also rather unsuccessful until the end of July, owing largely to stormy weather. However, in August the fishing improved, and the few curers who remained on at Castlebay were very fortunate in having a remunerative season. Local fishermen also did fairly well. The quality was on the whole good, and most of the herrings cured were sold to America at satisfactory prices.

In the Moray Firth, the summer herring fishing was prosecuted without restriction for the first time since the outbreak of war. With the exception

of Buckie, where a small fleet of boats landed their catches regularly, most of the stations in the districts of Banff, Buckie, and Findhorn depended almost entirely for their supplies of herrings upon the boats returning home for the week end. At the beginning of the season much discontent prevailed among the fishermen because of the low prices received for their fish. Ultimately the fishermen refused to go to sea until the curers promised to give at least 30s. per cran for a certain quantity of herrings landed daily. The curers having assented to their proposal the fishing was resumed. By that time the quality had improved and business moved more satisfactorily afterwards. A fair business was done in kippering and freshing, but the number of barrels cured and branded was the highest for many years. The total catch landed in these districts amounted to 41,190 crans, valued at £52,485, giving an average price of 25s. 6d. per cran.

At Wick a large fleet operated, and herring fishing proceeded without interruption throughout the season. Although the fishermen there also felt dissatisfied with the low prices realised, they continued fishing and benefited considerably when all the other East Coast fishermen had suspended operations. The catch was greatly augmented by the Fraserburgh boats which frequented the port. Consequently the landings were in excess of the facilities for dealing with them ashore, and this tended to keep prices down. A scarcity of salt also handicapped the curers, and supplies could only be obtained by rail, and were often held up on the way. Throughout the season the quality of the herrings was generally good, and the average price was about 25s. 9d. per cran. A fair trade was done in kippering, but the bulk of the catch was cured for export. Most of it was branded and handed over to the Government. The scheme worked satisfactorily, and the trade agreed that the fishing could not have been carried on without the help of the Government.

In Orkney district, herring fishing was not prosecuted to any extent. The Admiralty restrictions had not been sufficiently removed, and as many of the mined areas around the islands had not been cleared, conditions were considered too dangerous.

There was practically no winter herring fishing in Shetland, but the summer herring fishing commenced on a larger scale than has been the case for some considerable time past, although the prospects were far from bright. In the early part of the season more herrings were landed than could be dealt with at times, and at Scalloway and Lerwick hundreds of crans—mostly of immature herrings—had to be sold for manure or thrown back into the sea. The quality improved in July, and prices became steadier, although the minimum price was not always maintained. The fishing terminated somewhat abruptly about the middle of September, owing to a break in the weather, and to the fact that the quality of the fish had greatly deteriorated. The total catch for the season showed an increase of about 103,000 crans, and the cash value about £148,000. As the continental markets were at first unavailable curers experienced some difficulty in disposing of the early caught fish. The best selections were mostly sent to America, but about 75,000 barrels representing the bulk of the early cure were sold to continental buyers at the average price of 40s. per barrel, f.o.b. Upwards of 56,000 barrels, representing over a third of the year's cure, were branded and handed over to the Government. Fishermen's earnings on the whole were good. Steam drifters and motor boats grossed up to £2800, and sail boats up to £1300.

On the West Coast very little great-line fishing was done except at Mallaig and Oban, where good landings were made during the winter and spring by East Coast crews. Fewer boats landed there, however, than during the war, with the result that the total catch showed a decrease compared with 1918. The earnings of individual crews were very good,



ranging from £2800 downwards. These boats worked all over the Minch from Cape Wrath to beyond Barra Head, and the principal kinds of fish landed were cod, ling, eels, halibut, skate, and roker.

At Stornoway the great-line fishing was carried on mostly by local crofter fishermen with small sailboats, but occasional landings were made by steam vessels in early summer.

In Barra the great-line fishing showed a slight improvement in both catch and value, which was mainly due to the fishermen landing their catches at home instead of running in to Mallaig.

At the Moray Firth stations, the small-line fishing was vigorously and successfully prosecuted, a good many of the older fishermen doing nothing else throughout the year. Motor boats are growing in favour among Scottish fishermen, who now recognise the value of these boats for prosecuting the line fishing. As a general rule, the fishermen's earnings were exceptionally good at most of the creeks.

In Shetland the small-line fishing was pursued chiefly at Lerwick and Scalloway, where the results were very satisfactory considering the small number of men engaged. Young fishermen who had been in Admiralty service had not been demobilised in time to participate much in this fishing.

The cod-net fishing is now becoming a very important industry in the Moray Firth in the spring months. More boats were employed than in 1918, and in spite of stormy weather there was a greatly increased catch, but as lower prices were realised, earnings were generally less. Individual crews, however, made from at least £1300 downwards for their short season's work.

The shell fisheries of the districts under review were carried on principally on the West Coast and in Orkney. The return show an increase in value of £5090, as compared with the previous year's figures. The principal item was lobsters, and this industry would be capable of considerable development if fishermen were provided with motor boats, and improved facilities for dispatching their catches to market.

During the past year the island of Lewis has been much in the forefront, especially in connection with the efforts being made by Lord Leverhulme, the proprietor of the island, to develop its fisheries and establish new industries. The men of Lewis, whose war services have received the highest praise, are now endeavouring to resume their former occupation of fishing, and though some are finding it rather difficult to attune themselves to the altered conditions, it is to be hoped that as the new schemes are evolved ample employment will be found for all the islanders. It may be interesting to note that efforts similar to those being tried to-day were made in the early years of the seventeenth century. These schemes failed owing, among other things, to the lack of capital, but the commercial enterprise of to-day is certainly not handicapped by either lack of capital or insufficiency of business capacity. It is therefore expected that better days are in store for the Lewis fishermen.

The barrel making industry was very slack during the greater part of the year, and many of the coopers were obliged to seek other employment until the herring fishings commenced. The price of home-grown timber has remained very firm, and the trade experienced increasing difficulties in getting supplies of stavewood and heading. The c.i.f. prices of imported wood, which is mostly used in the manufacture of herring barrels, have fluctuated greatly owing to the freight difficulties, and prices averaged fully £5 per standard over those quoted in December 1918. The range was from £14 to £16 per 1000 superficial feet compared with 90s. in pre-war times. In consequence the price of empty barrels rose considerably, sales taking place freely at from 10s. to 15s. per whole barrel, and from 8s. 6d.

to 10s. per half barrel. Coopers' wages were also high, and rose again slightly in December. Prices paid to coopers now stand at 9d. for hooping whole barrels in factories only; for dressed staves and ends supplied 1s. 6½d. to 1s. 10d. for whole barrels, and from 1s. 5d. to 1s. 7d. for half barrels; and out of the rough with no wood dressed 2s. 8d. for whole barrels and 2s. 4d. for half barrels. Their fishing wages are fixed at £4 4s. per week for the home fishing, and £5 5s. when away from home, with overtime in addition at the rate of 2s. 3d. per hour, and all travelling expenses. The working week is 56 hours. Large contracts for empty whole herring barrels from factories have been entered into by curers for 1920 at from 10s. to 12s. each for delivery in May, and are chiefly for English stations.

From the districts under review a large number of craft participated in the east Anglian herring fishing, Buckie district contributing the largest number of boats. Taken all over, the English voyage was satisfactory for the Scottish fishermen, and the earnings of steam drifters averaged about £1500, and of motor boats about £900. An unfortunate feature, and one that was very general, was the extraordinary amount of damage done to gear, through stormy weather and fouling. Some of the boats instead of landing at Yarmouth and Lowestoft look their catches direct to Ymuiden, and are reported to have made very substantial earnings.

In continuance of the policy carried out earlier in the year in Scotland, the Government came to the assistance of those participating in the English fishing, and a scheme was introduced whereby a minimum of 45s. per cran was assured to the fishermen, while the curers' produce was purchased by the Government at the following rates per barrel: £3, 6s. 6d. for gutted, and £2, 19s. 6d. for ungutted herrings. This arrangement had the immediate effect of steadying the industry, though perhaps it was well that the weather conditions were what they were, otherwise gluts would have followed which would have had an adverse effect on the smooth working of the scheme. The scheme was ably administered by an Executive Committee, representing all the various branches of the industry, while the important work of inspecting and stencilling the herrings was efficiently and expeditiously carried out by a staff of eight of the Board's Officers lent to the English Fishery Department. No less than 317,026½ barrels were inspected and stencilled by these Officers, with whose work, it may be remarked, the trade generally expressed thorough satisfaction.

JAMES DONALDSON,

*Assistant Inspector of Sea Fisheries.*

FISHERY OFFICE,  
ABERDEEN, 7th February 1920.

*Eyemouth District.*

In reporting on the district fisheries during the year under review, it may be pointed out that practically all the men were demobilised by the end of the year, and that the conditions during the latter six months were about normal, both as regards men and boats. During the years of the war greater attention was given to line fishing, but during the past season the herring fishing again became the principal industry. The returns do not quite show this, as a number of crews prosecuted the herring fishing during the winter and autumn at other ports. The year's returns show an increase of 30,250 cwts. in quantity, but a decrease of £21,425 in value. All the line fish show a decrease in value. While the average earnings do not equal those of 1918, it is evident that the fishermen had a fairly prosperous year, a number of crews having made gross earnings of from £5000 to £7000. Kippering of herrings is now actively



engaged in throughout the year, so that shore workers were fully employed. Of the 32,965 crans kippered at Eyemouth, over 22,000 were brought from other English and Scottish ports.

The means of capture for the English section of the district do not call for any special remark, the changes being unimportant. In the Scottish section 2 steam drifters were added to the fleet. The transactions in motor boats left the total number the same as before but with a higher value.

The summer herring fishing was, as usual, opened at North Shields in the beginning of May, and at the other stations shortly afterwards. At the ports from Eyemouth to Craster the fishing up to the end of July was practically a blank. At Eyemouth the total landings for the 11 weeks were only 1679 crans. As a consequence boats left for North Shields and other ports, while a few crews turned to line-fishing for a time. Considering the large fleet at North Shields, the catch was only fair, for although there was an increase on the previous year's catch, the average per boat was about the same. On one occasion there were 136 steam drifters in this port. From the beginning of August to the third week in September a fairly successful fishing was landed at all the stations. Not for some years has the fishing continued to so late a date at the northern ports, such as Berwick and Eyemouth, where the season generally closed in the first week of September. The highest number of boats fishing at one time was 215, as compared with 139 in 1918. The most successful week yielded 12,660 crans, fairly divided among all the stations. The total catch was 91,059 crans, as compared with 60,950 crans for the previous season. Prices ranged from 5s. to 126s. per cran, with an average of 45s. 4d. per cran, as against 91s. 10d. in 1918. The fishing grounds were, as formerly, N.E. and S.E. of the Farne Islands. For a short time the southern area was restricted owing to the presence of mines. About half the catch was kippered.

During the season 8068 barrels of herrings were cured for export. The Government guarantee was no doubt an incentive, as was also the fact that occasionally the supplies were in excess of the kippering demands, so that curing prices ranged around about 20s. per cran. The bulk of the cure was sold privately. With the exception of a few barrels for the home markets the cure was exported to the Continent.

As stated, more attention was given to the herring fishing, with the result that line-caught fish decreased considerably in quantity and value, only 21.5 per cent. of the total landings being referable to this branch of the industry, as against 65.2 per cent. in 1918. In haddocks there was a decrease of 5939 cwts. in quantity, and of £25,232 in value. The highest take was 20 boxes. The fishing grounds extended southwards to the Farne Islands, where some of the best takes were secured. Prices ranged from 4s. to 11s. per stone, with an average of 48s. 1d. per cwt., as compared with 66s. 8d. in 1918.

The shell fisheries were fairly successful, the value constituting a record for the district. Crabs realised from 11s. to 27s. per barrel of about 50.

Barrel making was mostly confined to three firms, about half the stock being for outside orders. The prospects for the year are fair.

Boat-builders were actively engaged throughout the year in installing motor engines in sail boats and also in building motor yawls.

Six boats at the Irish herring fishing had fair success, their earnings ranging from £157 to £1050, with an average of £549.

Forty-two crews prosecuted the autumn herring fishing at Yarmouth. The earnings of the motor boats averaged £750, and of the steam drifters £1628. The highest earnings were £1340 for a motor boat, and £2500 for

a steam drifter. Some crews lost heavily in fishing gear, the total loss over the whole fleet being estimated at £8000.

There were no casualties during the year.

DAVID ROSIE,  
*Fishery Officer.*

FISHERY OFFICE,  
BERWICK, 16th January 1920.

### *Leith District.*

The fisheries of this district, of which the trawling branch is by far the most important, were prosecuted with good results during the year 1919. Compared with the returns of the previous year, the total quantity and value of white fish landed in the district show increases of 142,758 cwts. and £75,761, which so far as value is concerned established a record for this district. The average price paid for white fish caught by all methods was last year 36s. 7d. per cwt., as compared with 56s. 3d. per cwt. in 1918.

The most notable changes in the Means of Capture returns relate to steam trawlers and motor-propelled boats. Trawlers show an increase of 10 vessels over the preceding year, and the likelihood is that the fleet, which at present numbers about 60 vessels, will be augmented in the course of 1920. No less than 30 boats, old and new craft, were equipped with motor engines, and to judge from present indications, this popular type of boat will become still more in evidence in the near future.

The winter herring fishing, which usually goes on from January to April, was pursued with successful results, particularly from a financial point of view. The season's catch totalled 6858 crans, of the value of £39,762, as compared with 2019 crans, and £15,543 for the previous season. The number of boats regularly engaged at this fishing was about 80, and the most successful catch was secured during the week ended 22nd February, when 1733 crans were caught. Most of the herrings were secured by seine nets off Burntisland and Aberdour. Practically all the herrings realised the maximum controlled price of 126s. a cran, with the result that a rationing scheme had to be introduced, which was supervised by the Board's Officer at the Newhaven market, where the bulk of the catch was disposed of for freshening purposes.

Sprat fishing was a complete failure, only 708 crans having been landed, as against 2589 crans in the previous year.

Seine-net fishing was not so extensively carried on as was the case in 1918, the Cockenzie crews, who are the principal prosecutors of this method of fishing, not having given the same amount of attention to it. For 835 arrivals the year's catch was 1977 cwts., valued at £5506, as contrasted with 4545 cwts. and £21,769 for the year 1918.

Line fishing received noteworthy attention only at Dunbar and Cockenzie. The quantity and value of fish so caught were 21,803 cwts., and £51,557, as against 23,293 cwts. and £70,276 for the previous year.

Crab and lobster fishing, which is carried on mainly from Cove and Dunbar, was successfully prosecuted. The total value of all kinds of shell fish taken was £5031, as compared with £4691 in 1918.

As already mentioned, steam trawling is the chief branch of the district fisheries, and it is carried on almost entirely from Granton. The quantity and value of fish caught by this method were 279,012 cwts. and £506,529, as against 143,144 cwts. and £415,510 for the preceding year. Even these figures do not give an exact representation of the success of the district trawlers, since several of the boats frequently landed their catches at other ports when they were operating in northern waters. The average number



of trawlers at work in 1919 was about 50, and their favourite inshore fishing grounds were off St. Abb's Head, May Island, and the Bell Rock, while the usual deep-sea waters were from 140 to 160 miles E.N.E. of the May Island. As a rule the duration of the voyages was short, being on an average about 4 days. The highest individual shot was 410 cwts., valued at £787. Of the year's catch the large proportion of 114,253 cwts., equivalent to 40 per cent. of the year's trawl catch, was dispatched direct from Granton to the Glasgow market. The average price paid for trawl fish per cwt. last year was 36s. 3d., as against 58s. in 1918.

The two salient features of this branch of the industry last year were the railway strike in the autumn (which caused much dislocation in the trade and a temporary stoppage of fishing operations) and the strike amongst skippers and deck hands. This unfortunate strike began about the middle of November, and was not settled at the close of the year. The dispute arose through the skippers' and deck hands' making a demand for higher rates of wages and an extra deck hand, which the owners would not fully accede to, with the result that for a period of fully six weeks a fleet of about 60 vessels was laid up. It is estimated that in this district up to 31st December the loss of landings due to this regrettable stoppage would amount to 58,500 cwts. of fish, of the approximate value of £156,000.

With regard to the future outlook for trawling in the district, the probability is that this branch of the industry will continue to grow in importance, and it is to be hoped that in the future any further labour troubles which may arise will be speedily adjusted, so that the boats may not again be kept ashore for such a lengthy period. No doubt in the future with such a large fleet of vessels fishing from the various ports, prices for fish will not be nearly so high as they were in recent years, but with the growing demand for fish in inland centres, and the anticipated development of motor transport (which did such good service during the railway strike), as well as the opening up of new channels of distribution, the demand should be such that prices will leave a paying margin of profit to owners, notwithstanding the increased prices of all materials, which have risen to fully 300 per cent. over pre-war costs.

No practical steps have so far been taken by the Leith Dock Commissioners to carry out their pre-war scheme for the enlargement of Newhaven Harbour, and until such a project is actually completed the present arrangement whereby the trawlers have to land their catches at Granton, and then have them conveyed by road transport to Newhaven market for sale must continue despite its obvious disadvantages. It is satisfactory to state, however, that the Harbour Commissioners are quite aware of the desirability and necessity of carrying out their laudable intentions in the near future, when it is to be hoped that trade conditions may be more on an equality with those of pre-war times.

The exportation of cured herrings from Leith to the Continent was not so extensively carried on as was at one time anticipated, owing chiefly to the difficulty in getting herrings admitted into and sold in Germany. The total number of barrels of Scottish herrings exported was 34,185, of which 8990½ barrels went to Hamburg. The balance was sent mainly to Antwerp and Rotterdam. Besides the herrings, 39882 cwts. of dried fish, chiefly cod, were exported, and these went mainly to Spain.

The importation of cured cod, etc., from Faroe and Iceland into Leith was important. During the past year 161,060 cwts. of wet and dried fish, the estimated value of which was £402,650, came from those islands. The bulk of this fish, which was almost all carried by Faroe fishing smacks and Iceland trading steamers, was railed from Leith to such centres as Aberdeen, Hull, and Grimsby for final treatment.

The number of quarter-cran baskets branded in 1919 was 18,662, being almost double the number branded in the previous year. This part of the industry in this district appears to be on the increase owing to the keen demand, which at present exceeds the supply, for Leith manufactured baskets.

The building of fishing vessels was not brisk, but now that builders are free to undertake private building they will be better able to cope with new orders for all classes of fishing-boats. A number of orders have already been received.

Kippering of herrings is the principal branch of curing engaged in in this district, and more firms intend to devote their attention to this method of cure in 1920. The demand for kippers seems to be increasing, a circumstance which can in a great measure be ascribed to the increased marketing of kippers during the war.

The only casualty that occurred last year was the sinking by a trading steamer of a large Cockenzie motor-fishing boat on its homeward passage from Yarmouth. Happily all the crew of the boat were saved, but they lost all their gear and effects.

With regard to the future, the prospects are bright unless labour troubles recur, and a general expansion of the industry is probable. Now that prolific grounds which have not been fished for five years are being cleared of mines larger catches may naturally be looked for.

FREDERICK S. FRASER,  
*Fishery Officer.*

FISHERY OFFICE,  
LEITH, 15th January 1920.

#### *Anstruther District.*

With the gradual return during the year of vessels and men from Admiralty service, some semblance of pre-war activity was restored to the district. The additional catching power had little influence on the local landings of fish, as the majority of the larger craft generally work from ports outside the district. The total catch for the year was 49,691 cwt., valued at £92,544, as against 39,593 cwt. and £124,281 in 1918.

When due allowance is made for the fact that a large proportion of the fishermen were employed at fishing for only a portion of the year, it is gratifying to be able to state that earnings were fairly good on the whole. The success obtained at great-line fishing contributed in no small measure towards this result. No difficulty was experienced by local crews in fitting out for this method of fishing as nearly all of them were already in possession of the necessary gear.

The number of steam drifters now belonging to the district is slightly less than last year, but motor boats show an increase of 31, which is accompanied by a large decrease in the number of sail boats. Very few of the latter type of craft suitable for the purpose now remain to be equipped with motor engines.

In February the usual winter herring fishing was begun by a fairly large fleet, which carried on operations for a period of six weeks. For an ordinary season the catch would not be counted anything great, but with herrings selling all the time at the controlled figure of £6, 6s. per cran, the value at the end amounted to £31,487. A feature of this fishing is the fact that the fishermen dispense with the services of an auctioneer and dispose of their catches privately. It would be ever so much more convenient for buyers if this antiquated system were abandoned altogether,



as valuable time is wasted when the speedy dispatch of the fish ought to be the chief consideration. Before the operation of the control the fishermen were inclined to hang on to the fish in the hope of receiving a larger price, and only sold when it suited their inclination.

Probably no other section of fishermen follow the great-line fishing in such large numbers during the spring months as do the Fifeshire men. Landings this year were made at Aberdeen and Shields, whichever port was found most convenient. Favoured with good prices, several of the vessels finished for the season with outstanding earnings. For a period of 11 weeks' fishing the most successful steam vessel was reported to have earned £3600. Including stoker money the deckhands shared £1900. Many of the motor boats earned from £1300 to £1600 for 10 weeks' work. Although working expenses are heavier in great-line fishing than in herring fishing, this is counterbalanced by the less expensive gear required.

Owing to exceptionally stormy weather cod-net fishing was not prosecuted with the same success as in 1918. The season's catch amounted to 5037 cwts., valued at £13,416, as compared with 7720 cwts. and £37,715 in 1918.

When the summer herring fishing was about to commence, the hired hands belonging to Anstruther decided to strike unless an alteration in the division of the earnings was made to bring it into line with the practice at other ports. As the owners were not prepared to accede to the demands put before them, over 30 steam and motor vessels were laid up. Although various efforts were made to bring about an amicable settlement, these for a time proved abortive. After the strike had lasted for nine weeks the owners and deckhands held a conference at which terms were agreed upon. The men gained their ends, and now work on the 18 shares principle as against 20 previously.

The St. Monans and Pittenweem crews were not affected by the strike, and therefore fished as usual from the Aberdeenshire ports, where they finished the season with poor results.

A fleet of 35 steam and 57 motor vessels took part in the East Anglian herring fishing, with moderate success. The earnings of the steamers varied from £650 to £2300, while motor craft had from £370 to £1200. The bad weather experienced on the English coast this season operated more to the disadvantage of the motor than the steam vessels, with a resultant difference in the average net earnings.

From a financial point of view, small-line fishing proved a decided success, especially to the crews in possession of motor boats. At Pittenweem, where it is carried on with the greatest perseverance, fish were found more plentiful than has been the case for many years.

During November and December, 137 tons of sprats were landed at Newburgh, and the whole quantity was sold to farmers for manure purposes at £2 per ton. It seems these fish are of such small dimensions that they possess no market value as an article of food.

The crab and lobster fishing yielded slightly better results than last year. Owing to continued stormy weather operations had to be suspended earlier than usual.

The supply of mussels obtained from the local beds was greater than in the previous year. Opportunities exist for developing these beds to greater advantage. There are considerable quantities of small mussels on the seed beds, and if these were properly planted in the right places, a greater supply would in course of time become available.

Apart from the inconvenience felt during the railway strike, facilities for the distribution of fish were considered fairly satisfactory and far superior to those at other places where local buyers conduct business. The only complaint of loss through bad transport was made during the summer

months by Crail fishermen, who consign most of their shell fish to London. It appears the fish were frequently delayed either in transit or at the terminus, and consequently arrived at the market in stale condition.

Local enterprise is still very much alive, as is evidenced by the fact that a company has been formed at Anstruther for the purpose of engaging in the building and repairing of fishing vessels. Whenever the necessary arrangements have been completed it is the intention to proceed with the erection of a patent slip at the head of the new harbour. Buildings are also to be acquired for conversion into workshops. This should be a decided acquisition to the district, and will greatly facilitate the repairing of fishing craft.

The completion of this, the first year's efforts towards the reconstruction of the fishing industry, has given those interested a more hopeful outlook for the future. The prosperity of the district may really be said to stand or fall by the results attending the prosecution of the herring fishing. As the time approached for the usual summer season to open the situation appeared none too bright, and a real anxiety existed as to the course of events. It was then that the decision of the Government to support the industry was announced, and a stability was given to the industry which undoubtedly saved it from total collapse. The introduction of the guarantee scheme was greatly appreciated by all sections of the fishing industry, and, although not so comprehensive as some would have wished, it was considered on the whole a decided success.

JAMES WOOD,  
*Fishery Officer.*

FISHERY OFFICE,  
ANSTRUTHER, 8th January 1920.

#### *Montrose District.*

With the cessation of hostilities and the gradual release of fishing vessels and fishermen from their naval and military duties, the various branches of the fishing industry in this district were prosecuted with increased power and energy during the year under review. A fair comparison of the results with former, and particularly with pre-war, years can scarcely be made, as circumstances, both in means of capture and market values of the catch, have greatly changed, and have placed the industry on an entirely new financial basis. During the war period fewer boats were employed, and these were under restrictions which limited their catching power considerably. But at the same time prices for fish soared to a great height until control was established, and although the cost of boats and fishing gear increased, a large margin of profit was left for the fishermen. With the increased catching power available through the demobilisation of vessels and *personnel*, and a reduction in the control prices, the earnings of fishermen began to wane, and this was very much aggravated by the scarcity and increasing prices of all fishing gear and labour necessary for the carrying on of the fishing. These circumstances were felt very keenly by those men who had been on service. Many of them had, for various reasons, to sell their gear, while others found it had deteriorated to such an extent during their absence that they could not use it. Matters were not made any easier for those men by the great change that had come over the fishing fleet since 1913. In 1913 practically half of the total line-caught fish was landed by sail boats, whereas in 1919 the proportion fell to one twenty-second part, and concurrently line-caught fish increased in quantity from 24,053 cwts. to 66,100 cwts., which meant that very few sail boats were regularly in use, and the fishermen had to adapt themselves



and their gear to the changed conditions. Good earnings were made at line fishing during the war period, and practically all the fishermen as they were demobilised took up this branch of the industry. The prosecution of the herring fishing would require a good deal of capital or credit which, in most cases, was not available, and as line fishing could be taken up almost at once with a minimum of expenditure and a ready return for their labour, the fishermen took the first and easiest means of obtaining a livelihood.

The results of the year's operations compared with 1918 show a decrease in the quantity landed of 18,572 cwts., but this is more than accounted for by the poor landings of sprats, while, owing to the drop in prices, the value is less by £103,032. White fish, however, show an increase of 14,936 cwts.

The principal items of interest in the means of capture returns are the increases of 21 motor boats and 3 trawlers and the decreases of 2 steam-drifters and 10 sailing boats of the first and second class, with the consequent change in the quantity of gear used. A considerable improvement was made on the speed of some of the motor yawls and skiffs by the replacing of 8 and 13 H.P. engines with engines of 13 to 26 H.P., and this movement is likely to continue.

The summer herring fishing was prosecuted by 2 steam drifters and 10 large motor boats, principally from Peterhead; but with poor prices and high working expenses the results were disappointing. Thirteen crews fitted out for the English herring fishings, but here again disappointment was met with. The stormy weather experienced prevented regular fishing, and with heavy loss of fishing gear the voyage was not a success. Steam drifters grossed up to £1200, and motor boats from £400 to £1000 each.

Each year represents part of two seasons of the sprat fishing which is carried on in the Firth of Tay, landings being first made early in November and continuing on to March and April. During 1919 a fleet of 25 boats was employed, and there was an abundance of these small fish in the Tay estuary, but operations were conducted in a very half-hearted manner owing to the poor prices obtained, there being a plentiful supply of herrings on the market from English and West Coast ports, which operated against the successful sale of the sprat. About 120 crans were pickled and iced, and dispatched to Norway *via* Newcastle, but the quality was considered unsuitable, and no further consignments were sent.

Line-caught fish accounted for almost half of the total landings in the district, and had it not been for the stormy weather experienced during the last quarter of the year, a record would have been established in the landings by this method. A fleet of 90 motor boats were at work when the year began, but as it advanced the number increased to 115 boats. This fleet made a total of 15,235 landings, yielding 62,460 cwts., chiefly haddocks and codlings, against a total catch of 3056 cwts. for 3406 landings by a fleet of 80 sailing yawls which were irregularly employed.

The steam trawling fleet belonging to Dundee was increased during the year to 5 vessels, and their landings were augmented by occasional catches from Granton and Aberdeen trawlers. Three trawlers belonging to Montrose and a few Granton boats made occasional landings at Montrose, which were all railed to Glasgow for sale. During the first part of the year the principal fishing grounds were from 5 to 60 miles E. and E.N.E. from the Bell Rock, but later on a good deal of the fish was caught off the Aberdeenshire coast. There was a total of 709 landings made from one, two, and three day trips, averaging 68.4 cwts., valued at £141.5 each, while the most successful boat grossed £16,000, and the total catch shows an increase of 17,319 cwts. compared with 1918. The average price of trawl fish was 4s. 4d. per cwt. against 5s. 1d. per cwt. in 1918; while the average price

of all white fish was 41s. 10d. per cwt. against 45s. per cwt. in 1918, and 14s. 11d. per cwt. in 1913.

The results from lobster fishing were similar to those of 1918, but 42,459 fewer crabs were landed owing to the greater attention given to line fishing, while a decrease of 222 tons occurred in the quantity of mussels dredged from the Esk and Tay.

Seven steam drifters were reconditioned and handed over to their owners ready for fishing at Montrose, and 3 steam trawlers were built to the order of the Admiralty, but were taken over by the Montrose Fishing Co. Ltd. when ready for fishing.

Herring curing for export with its subsidiary branch of barrel making has practically become extinct in the district. About 2500 barrels were made for sale.

There were no lives lost in connection with the industry, but there was a considerable amount of loss of and damage to fishing gear.

At the close of the year only one fishing vessel remained to be released from war service, and practically all the fishermen had returned to civil life and resumed fishing operations. The re-establishment of the industry has been accomplished in a wonderfully smooth and expeditious manner, notwithstanding the difficulties encountered in connection with the supply of boats and fishing gear. A further expansion of the trawling industry is expected at Dundee, and the Montrose Fishing Co. Ltd. have increased their capital to £300,000, and have purchased a fleet of 20 modern steam trawlers. These vessels are to operate from Montrose, and the company have acquired sites for the erection of an ice factory, a box-making establishment, and other business in connection with the industry. An additional shipbuilding yard has been prepared at Montrose and another at Arbroath, where the building and repair of steam trawlers, drifters, and liners can be carried on. In addition to these, two Montrose firms have developed their works for the installation and repair of marine motor and steam engines, and one of these firms contemplates the erection of premises with a slip way for the building and repair of wooden steam drifters and motor boats.

JAS. MAIR,  
*Fishery Officer.*

FISHERY OFFICE,  
MONTROSE, 22nd January 1920.

*Stonehaven District.*

The energies of the fishermen in Stonehaven district were confined to small-line and crab-creel fishing. The release of fishermen and boats from Admiralty service added no fresh impulse to the industry, since very few young men are now interested in the local fisheries.

No local fishermen were engaged in the herring fishing; but during June, July, and August there were occasional landings of herrings by Fifeshire crews. These herrings were all sent to the home markets either fresh or kippered.

Although line fishing was vigorously prosecuted, and the total quantity of fish landed was very little less than in 1918, the total value of white fish was only £27,827, as compared with £51,792 in 1918. The average price of all white fish landed in 1919 was 29s. 7d. per cwt., against 49s. 7d. in 1918.

Earnings of crews engaged in the small-line fishing showed a corresponding falling off. Motor boats' gross earnings ranged from £1000 to £2500,



and exceptionally £2800 ; whereas the range in 1918 was from £2500 to £4000, which, however, was the best year on record.

No fishing boats were built in the district, but two splendidly equipped motor boats of about 43 feet of keel were added to the Stonehaven fleet, at a cost of about £1000 each. These boats have 26-30 H.P. Kelvin engines. So satisfactory have motor yawls proved, that the time is probably not far distant when the line fishing at Stonehaven will be prosecuted entirely by motor boats.

The crab fishing was vigorously and successfully prosecuted, chiefly at the out-stations ; and the pecuniary results were almost identical with those of the previous year.

The local net manufacturers had a busy season, although the great increase in the price of herring nets restricted sales considerably, since fishermen were limiting their orders as much as possible, and only buying what they considered absolutely necessary for their outfit.

There were no serious casualties nor loss of life during the year.

R. DUTHIE,  
*Assistant Inspector.*

FISHERY OFFICE,  
ABERDEEN, 28th January 1920.

*Aberdeen District.*

Two events, of outstanding importance in connection with the fisheries, occurred during the year 1919—the release of fishermen and fishing vessels from Admiralty service ; and a strike of trawl fishermen over a question of wages, to which the owners replied by laying up all steam vessels.

This lock-out lasted for about ten weeks, or from the beginning of September till the middle of November, and its effects were felt by all who were directly or indirectly interested in the industry. Local fish merchants and curers had to get their supplies of fish from other ports—Fleetwood, Hull, Grimsby, Granton, etc., having been drawn upon, as well as Moray Firth stations. This method of getting supplies was costly and generally unsatisfactory ; it led to the temporary closing down of some of the haddock-curing establishments, and to a great limitation of the activity of others. Judged by the average monthly landings from June to December, the strike probably cost the local trawling fleet about £400,000 in gross earnings.

The return of fishermen and vessels to their normal occupations resulted in a great increase in the landings of fish, the figures for 1919 being 1,241,824 cwts., valued at £2,088,867, as compared with 318,765 cwts., of the value of £1,077,102, in 1918. The average price per cwt., however, shows a marked reduction, the rate being 33s 8d. in 1919 against 67s. 7d. for the previous year. With the greatly increased cost of fishing material and fuel, and the increase in all working expenses, the margin of profit left to owners of fishing vessels is likely to be much smaller than it was under war conditions.

The increased cost of fuel is apparently tending to a general extension of the time occupied over each trip, especially trips to the more distant fishing grounds.

The reopening of fishing grounds that had been closed or inaccessible during the war revealed a general increase in the supply of fish on those grounds. This was very noticeable in the catches of long-voyage liners,

in which there were generally great numbers of fine young halibut, mostly weighing from about a stone to four stones each. This improvement was evident alike on the north-western grounds off the Orkneys and the Hebrides, and off the Irish coast. An increased supply of fish was also reported by trawlers that fished on the Farøe and Iceland grounds.

Landings by steam liners totalled 115,678 cwts., valued at £254,735, as compared with 5886 cwts., valued at £18,139, in 1918.

Motor great-line boats landed 13,378 cwts., valued at £22,788, against 2313 cwts. and £6785 in 1918. Though the quantity of fish landed by motor small-line yawls was only 13 per cent. less than in 1918, the value decreased by almost 50 per cent.—£23,826, against £47,336. Fishermen complain that with decreased earnings and increased cost of fuel, lines, and bait, small-line fishing was not very remunerative last year.

Sail yawls only contributed 1105 cwts., valued at £1449, to the landings at Aberdeen, the value being almost 60 per cent. less than in 1918. Even with the landings at the three Kincardineshire creeks, the total of white fish landed by sail boats only amounted to 3775 cwts., valued at £5358.

For the whole year the landings of herrings totalled 65,286 cwts., valued at £42,226, as compared with 3165 cwts. and £3241 in 1918. The supply was quite inadequate to the requirements of local kipperers, some of whom confine their energies to this branch of the business all the year round. Large quantities of herrings had, therefore, to be brought from other Scottish and English stations, to be kippered, tinned, or made into red herrings here. Very few herrings were cured for export.

The quantity of cod, ling, etc., dry-cured in Aberdeen was much less than in the previous year. There was an increase in the quantity of fish purchased fresh for curing purposes, but a greater decrease in the imports of partially cured fish from other countries.

Towards the end of the year especially, sales of trawlers took place on an extensive scale. The largest trawling fleet owned here or in Scotland was taken over by an English syndicate, but the headquarters of this fleet will still be in Aberdeen. On the other hand, several owners resident at other ports have sent part of their trawling fleets to work out of Aberdeen. The number of steam vessels working from this port, therefore, promises to be at least equal to pre-war figures. There are now over 50 "Sabbath-observing" trawlers fishing from Aberdeen. These boats are manned by ex-line fishermen, and most of them are owned wholly or partly by the skippers, or other members of the crews.

The demand for fish meal and manure failed to keep pace with the increased production, and the price of fish offal fell by about 30 per cent. as the year advanced. As yet the manufacture of glue from skins of filleted fish, cod heads, etc., is limited. The production of medicinal and trade oils is, however, gradually approaching the pre-war output.

The reconditioning of the fishing industry has led to great demand for fish-curing premises, and it is now almost impossible to lease a fish-house even at a greatly enhanced rent. Nearly thirty firms have to pack on the market, where the charge is twopence per package with the surrender of offal, which is a considerable source of revenue to the market superiors. Sites for new fish-curing premises cannot now be got in reasonable proximity to the market, owing to the objections of householders to the smoke nuisance.

Local ship and boat-builders had a busy year. Over thirty steam trawlers and drifters were built in completion of Admiralty contracts, and these vessels are now being handed over to ex-service fishermen.

The local barrel factories were not properly reconditioned till the autumn, so that the output of barrels was only moderate.

During an autumn gale 2 trawl fishermen were washed overboard



and drowned. One small steam vessel was wrecked, but the crew were saved. There was a heavy loss of fishing material, especially trawl gear.

R. J. DUTHIE,  
*Assistant Inspector.*

FISHERY OFFICE,  
ABERDEEN, 30th *January* 1920.

*Peterhead District.*

As regards the fishing industry of this important district, the year under review was one of transition. War-time conditions gradually gave place to those of peace. To its credit the district played no mean part in the great war, and like many others, made great sacrifices in the cause of the Allied Nations.

During the greater part of the year, men and women who were employed in various capacities on war-work, returned to their former occupations with a wonderful record to their credit. Steam trawlers, steam drifters, and motor craft have been returned to resume their peaceful pursuits. The full complement of steam drifters, however, has not yet been released.

Generally speaking, the fishermen of the district had a fairly remunerative year's work, although their earnings fell far short of those of 1918. Had there been no Government Guarantee Scheme for the East Coast summer herring fishing, and also the East Anglian autumn fishing, the conditions for fishermen and curers would not have been so satisfactory.

As is customary, the leading fishermen of the district commenced the year by engaging in the West Coast herring fishing. In all 53 steamers and 10 motor drifters were employed, and although their earnings were far short of the preceding year's they were none the less fairly good. Steam vessels had earnings for the season of from £750 to £3500, and motors £400 to £1500. It was customary for steam drifters frequently to land shots taken on the West Coast and Flugga fishing grounds at Peterhead.

The summer herring fishing was prosecuted from late in May until early in September. Altogether a fleet of from 200 to 210 vessels was employed, the majority of which were propelled by steam or motor power. With a fleet so equipped, the early delivery of the catches in good condition is assured. Earnings for the various classes of vessels were as follows:—Steam drifters, £650 to £1850; motors, £500 to £1400; and sailers, £363 to £640. Costly fuel and the high price of labour affected the earnings of vessels considerably. In the consumption of coal economy had to be practised, and in consequence the field of operations was to some extent restricted. For the season the catch was 140,607 crans, valued at £211,551, compared with 56,102 crans and £237,518 in the preceding year. The average price for the season was 30s. 1d. per cran, compared with 84s. 8d. in 1918.

As might be expected, the restoration of the herring industry did not proceed without difficulties being encountered. On two occasions the fishermen ceased operations for a time, as they were dissatisfied with the prices paid for their produce by the curers, who did not always adhere to the minimum price on which the Government Guarantee Scheme was based.

Curers had various thorny problems to contend with. There was a distinct shortage of all forms of skilled labour. Throughout the greater part of the season considerable difficulty was experienced in getting sufficient supplies of salt owing to the unsatisfactory conditions of transport.

The kippering and freshing trades were also adversely affected by the unusual delay which occurred in the delivery of goods by the Railway Companies.

The greatest difficulty which the trade is confronted with at present is the disposal of the herrings cured in pickle. That was most clearly demonstrated at the East Anglian fishing stations. Had there been no Government Guarantee Scheme, the whole industry would have been faced with a crisis.

During the summer months, the owners of a number of the largest type of steam drifters kept their vessels employed at great-line fishing, which is prosecuted on the distant fishing grounds. Very satisfactory earnings of from £1200 to £4500 were obtained, which were much in excess of those obtained at herring fishing.

Early in the year regular supplies of white fish were landed at Peterhead by Admiralty vessels which were fitted with otter trawls. Those supplies were readily purchased and dispatched to the southern markets. The controlled prices which then existed provided a good margin of profit for both buyer and seller.

A local firm had a large-sized drifter fitted out for trawling, and this vessel made frequent landings at Peterhead. It is understood that the same firm has recently purchased two more steam trawlers, which are likely to work from the port.

The East Anglian herring fishing was prosecuted by 119 steam drifters and 14 motors from this district. An unusually stormy season was experienced. The earnings of steamers varied from £800 to £3250, while motors had from £350 to £1050. Herrings were not so abundant as in former years. Had they been so, fishermen would have done particularly well, as good prices were received. Losses of netting were much above those of an average season. About 50 of the district curers did business at the East Anglian ports. In general the season was not a very profitable one, as fish were bought at the end of the season at too high a price.

In the course of the year numerous sales and purchases of steam drifters took place, with the result that at the end of the year the number owned in the district was two less than in 1918. Large auxiliary motor drifters are not now in such demand, and consequently the number owned in the district has decreased, as several were sold to other districts. For the prosecution of the line fishing the small motor craft has become popular at Peterhead, and they were increased in number during the year. Very few, however, have been acquired by the fishermen of the small creeks in the district. That may be accounted for by the fact that it is chiefly men advanced in years who pursue the fishing at those creeks. Large sail boats will soon cease to exist in the district.

The Peterhead Steam Trawling Company have now their whole fleet of 9 vessels again employed at fishing. These all work regularly from Aberdeen, and did so for some years prior to the war.

The changed conditions prevailing during the year had a material effect upon the prices of fish. The total catch of fish was  $2\frac{1}{4}$  times that of 1918, whereas the value was only  $\frac{4}{5}$ ths.

In the spring fourteen cargoes of Norwegian iced herrings were landed at Peterhead by two importing firms. To one of those firms at least the venture was not a profitable one, and in consequence it was dissolved. Their imports were not well regulated, and frequently met a glutted market, while at the same time the Norwegian fish were in poor demand in the industrial centres.

Throughout a great part of the year the reconditioning of steam drifters, returned from Admiralty service, provided work for a large number of tradesmen of various classes.



All the material necessary for the conduct of the industry, both on sea and land, has advanced in price. Meantime they are from three to four times above the pre-war level.

At the height of the season the most extensive kippering establishment in Peterhead, and possibly in Scotland, was completely destroyed by fire. It is now being reconstructed and enlarged on modern lines. An extensive fire also took place in one of the barrel factories, where some valuable machinery was destroyed.

Small and hand-line fishing was prosecuted throughout the year upon the inshore grounds with very fair success. Fishermen who worked regularly succeeded in earning a good livelihood.

For the purposes of their kippering business, an enterprising firm in Peterhead last year erected premises into which they installed cold-storage plant. It is the first cold storage to be established in the district.

Enlarged and improved harbour accommodation is a question which is now being considered by the Harbour Trust of Peterhead. The works suggested are meant to improve and utilise the existing area to its fullest extent. The cost of the scheme is estimated to be £256,000. A great many of the fishermen of the port are not in favour of the scheme, in so far as it relates to the closing of the north entrance. If carried out, the scheme would extend the existing berthing area considerably, by making the outer basin of the North Harbour a useful one. In its present condition it is of little service.

A considerable number of young fishermen attended navigation classes which were arranged for by the Educational Authority at the slack periods between the different fishing seasons.

No loss of life took place during the year in connection with the operations of the fishing fleet belonging to the district, nor were any vessels wrecked or seriously damaged. Considerable loss of netting was incurred on the East Anglian coast through stormy weather, sunken wrecks, and congestion on the fishing grounds.

JAMES RITCHIE,  
*Fishery Officer.*

FISHERY OFFICE,  
PETERHEAD, 5th January 1920.

#### *Fraserburgh District.*

The returns of fish landed in this district for the year 1919 show that the total catch exceeded that of the preceding year by no less than 367,092 cwts., or 76 per cent., while the total value shows a falling off of £191,184, or over 32 per cent. The large increase in the catch and also the greater part of the falling off in value is referable to herrings, which accounted for about 95 per cent. of the total landings. An increased catch and lower prices were anticipated when the majority of the fishermen resumed their pre-war occupation, but it was hardly expected that the average price of herrings would so soon fall to a figure approximating to pre-war level. With the large increase in working expenses and cost of fishing material, fishermen, so far as the summer herring fishing was concerned, experienced an unremunerative season. The other branches of the fisheries in which most of the district fishermen participated yielded fair results. Compared with that for 1913, the last complete pre-war year, the catch for 1919 shows an increase of 199,413 cwts. in quantity and £71,821 in value.

Considerable changes are apparent in the composition of the district fleet of fishing vessels. The steam drifters belonging to the district which were lost while on Admiralty service have not yet been replaced.

Motor engines have been installed in most of the suitable large sailing boats, and also in a few of the smaller sized boats, while a number of small sail boats that were used for fishing during war-time have now been removed from the registry. Owing to the rise in value of all fishing vessels and fishing gear, the capital invested shows a large increase. Only 2 large sailing boats belonging to the district were employed at fishing during the year compared with 185 in 1913. During the past four years the number of motor boats owned in the district increased from 38 to 180, while, during the same period, the number of sailing boats declined from 446 to 239. As showing the changes that have taken place in the type of vessels engaged in herring fishing, the following table giving the percentage of the catch of herrings landed by (1) steam vessels, (2) motor boats, and (3) sailing boats in this district in the years 1910, 1914, and 1919, may be of interest.

Years.	Percentage of Herring Catch Landed by		
	Steam Vessels.	Motor Vessels.	Sail Boats.
1910 . . .	33	4	63
1914 . . .	63	5	32
1919 . . .	48	46	6

As already stated, herrings accounted for about 95 per cent. of the total catch for the district. During the first quarter of the year about 2000 crans were landed from the West Coast fishing grounds. These herrings were bought chiefly for kippering purposes. The principal fishing in the district is, of course, the summer herring fishing. At the commencement of the season the outlook was very gloomy indeed, for while it was anticipated there would be a good demand for fresh and kippered herrings in this country, it was evident to all concerned that the home markets could only at the best absorb a small proportion of the catch. The Continental markets for cured herrings were practically closed, and, while curers were willing to risk purchasing herrings at a small price for curing, they were not prepared in view of the uncertainty of finding a market to pay prices which with the increased working expenses would enable the fishermen to carry on the industry on a profitable basis.

A small fleet commenced fishing about the middle of May, and so long as only light catches were landed fair prices were paid for freshing and kippering purposes. With increased landings prices fell, and at the end of May the fishermen decided to stop fishing for a fortnight. At the same time they asked for a guaranteed price of £2 per cran. No agreement was arrived at between the buyers and the fishermen, but the fishing was resumed on the 9th June. On the following day a catch of over 6000 crans was landed, and prices fell to from 5s. to 8s. per cran. A number of crews again gave up fishing, but a few continued operations, and only light takes were landed during the remainder of the week. In the meantime the Government guaranteed in the event of the curers being unable to dispose of their stocks of cured herrings, to purchase at 15th September up to a total of 400,000 barrels upon terms which would enable the curers to pay the fishermen prices for their herrings which were, in the circumstances, considered reasonable by both parties. On 17th June, however, 8000 crans were landed, and, as curers with their short staffs of fish workers were unable to deal with this large supply, prices again fell to as low as 8s. per cran. The fishermen again resolved to cease fishing operations for a time. Negotiations were carried on between the fishermen and curers with the view of having the fishing restarted, but without success. Eventually at a joint conference of fishermen, fishbuyers, and members of the Fishery Board, the fishermen agreed to resume fishing on the understanding that curers would pay the prices for herrings which they were enabled to do under the Government Guarantee.



Fishing was again resumed on 1st July, and was continued without further interruption till the end of the season. The weather throughout the season was favourable for fishing, and operations were attended with remarkable success. The total catch amounted to 229,021 crans, which gave an average of over 600 crans per boat. The quality of the herrings was generally good. The average price for the season was 29s. 6d. per cran, compared with 76s. 10d. for the corresponding season of the preceding year. The catch was disposed of as follows:—cured gutted, 60 per cent., cured ungutted, 7 per cent., kippered and tinned, 16 per cent., and freshed, 17 per cent. The quantities sent to the home markets would have been much greater if adequate transport facilities had been available, a shortage of wagons being experienced on several occasions. Of the herrings cured the greater proportion was eventually exported to Finland, Holland, France, and Germany. The home market for cured herrings showed very little expansion.

Although the Government guarantee to purchase the unsold stocks of pickled herrings did not altogether have the desired effect of assuring to fishermen remunerative prices for their catches, it at least afforded a certain amount of security to the curers and enabled the industry to be carried on. The herrings intended for the guarantee were inspected and branded or graded during the progress of the season, but as no herrings were actually taken over by the Government till 15th September the curers were faced with the difficulty of providing the capital necessary to carry on operations for the whole season. They were also faced with a large increase in the cost of labour and curing material. These difficulties were largely responsible for the low prices paid to the fishermen, in whose interests the scheme was brought into force. Towards the close of the season a number of curers were able to dispose of a considerable portion of their stocks, and only about one-third of the total cure at this station was handed over to the Government. No difficulty was experienced in carrying out the provisions of the scheme. The system which was in vogue of grading the herrings which were unfit or ineligible for the brand proved satisfactory to all concerned.

Small-line fishing received about the same amount of attention as during the preceding year. During the last quarter of the year, however, the fishing was frequently interrupted by stormy weather, and the total catch shows a falling off of about 12 per cent. Owing to lower prices the value is only about half that recorded for 1918. Great-line fishing receives little attention in this district.

One hundred and fifty-six crews belonging to the district prosecuted herring fishing on the East Anglian coast during autumn. The season proved moderately remunerative, the total gross earnings of the district crews being £175,900. Unfortunately most of the crews employed lost a portion of their fishing gear.

The fishing industry so far as the producers are concerned has, after four years of war, been to a large extent re-established. Most of the fishing vessels that were on Admiralty service during the war have been returned to their owners, and are now employed at fishing. The majority of the fishermen have also returned to their pre-war occupation. At present, however, the outlook for the fishing industry can hardly be described as bright. The cost of fishing vessels and fishing gear has risen enormously during the last four years, and fair returns to the fishermen cannot be secured unless much higher prices than those ruling before the war are obtained. The demand for fish in the home markets has increased considerably during the past four years, and will probably continue to expand, but the herring fishing must still to a large extent depend on the export trade. Everything possible should be done to increase the home con-

sumption of fish—fresh, smoked, or preserved. Better transport facilities must be provided so that a plentiful and regular supply of fish will reach the large consuming centres in good condition. Facilities should also be provided for supplying fish to the remote areas in the country, the means of distribution to which are very limited. The preserving of fish by tinning should receive every encouragement—the markets for tinned fish in this country have hitherto been neglected—and endeavours should be made to find new markets for cured fish.

Owing to economic and political difficulties the pre-war markets for pickled herrings in Central Europe are still to a large extent closed to private traders, and until these difficulties are overcome the cured herring trade will continue in an unstable condition. At present there appears to be little prospect of this branch of the industry being established on a pre-war footing in the near future.

WILLIAM KEIR,  
*Fishery Officer.*

FISHERY OFFICE,  
FRASERBURGH, 13th January 1920.

*Banff District.*

One of the outstanding features in connection with the fisheries of the district during the year under review was that, although the quantity of all fish landed was greater by 38,011 cwts. than in 1918, the value was £49,880 less.

Herrings, cod, and haddocks are chiefly responsible for the increase. The causes of the great decrease in value were (1) the control of fish prices during the winter and spring months, and (2) the plentiful supply of cheap herrings during the summer months, which affected the demand for white fish, and caused prices to fall.

There was a decrease of 5 in the number of steam drifters, and 29 in the number of sail boats. On the other hand, 21 motor boats were added to the district fleet.

The decrease in the number of sail boats was due to the conversion of some into motor boats, and to the breaking up of others which had become unseaworthy during their owners' absence on service. Five drifters were sold out of the district.

Cod-net fishing commenced towards the end of January and continued to the beginning of April. The number of boats which participated in this fishing was fewer than usual, being 24, compared with 47 during the previous year, and 67 in 1917.

Notwithstanding the fact that there were fewer boats at work, the total catch of net-caught cod for the season exceeded that of the previous year by 1235 cwts., but, owing to prices being controlled, the value was £2442 less.

Small-line fishing, however, is by far the most important branch of the district fisheries, and fishermen, realising the value of motor boats in this connection, are equipping all sail boats which are suitable for the purpose with motor engines, and are adding new motor boats to the fleet. The quantity of line-caught fish landed was 5422 cwts. more, but the total value considerably less than in 1918.

The summer herring fishing which commenced during the week ending 17th May, and continued until the end of August, was attended with fair success. About a dozen motor boats operated regularly from Macduff, but in addition to these, crews returning home for the week-end from Fraserburgh supplemented the landings.



During the first few weeks the takes were generally light, and all the herrings landed were kippered and freshed.

At this date the gloom which overshadowed the industry was dispelled by the Government guarantee scheme for cured herrings, which worked satisfactorily to the end of the season, and saved this most important industry from collapsing.

Curing was begun during the first week of July, and after that date the principal curers discontinued kippering and devoted their whole attention to pickling. The quality of the herrings landed during July and the first fortnight of August was generally very fine, and as the landings were never too heavy for the curers to cope with, the herrings as a rule were cured in splendid condition.

Herrings were occasionally landed at Whitehills and Portsoy, as well as Macduff, all being cured gutted.

For the season the total catch was 6723 crans, compared with 3217 crans in 1918.

Of this total, 2482 crans were kippered, 6652 barrels were cured gutted, and the balance freshed. Of the quantity cured, 6397 barrels received the "Crown Brand," 131 were branded Grade 2; and 65 barrels Grade 3.

The bulk of the herrings kippered and freshed was consigned to London, Glasgow, and the Midlands, and, as the returns were usually good, kipperers and freshers had a fairly good season.

The greater portion of the cured herrings was exported direct to Germany, 3696 barrels being sent to Königsberg, and 1165 to Stettin; the balance was sent by rail to Aberdeen for exportation.

After the close of the summer herring fishing, 62 steam and 27 motor drifters proceeded to England and participated in the East Anglian fishing.

Stormy weather, however, greatly interfered with fishing operations, and a considerable amount of fishing gear was lost.

The minimum price of 45s. per cran, however, helped to compensate fishermen when the supplies were good, and on the whole they had a profitable season. The average gross earnings of steam drifters were about £1500 and of motor boats £850.

The boat-building trade was brisk throughout the year, but, owing to the builders at Banff and Macduff being busily employed on Admiralty work, refitting and building steam drifters, they were unable to undertake many orders for fishing boats.

The total number of drifters launched during the year to the order of the Admiralty was 3, while 9 motor boats of from 35 to 45-feet keel were built for fishermen for line fishing.

During the early part of the year, barrel-making received little attention, as at that time few coopers had been released from the Army. During the latter part of the year, however, all the coopers available were employed at barrel-making at Macduff, Whitehills, and Portsoy.

The loss of fishing gear at the Scottish fishings was above the average, and at the East Anglian fishing was serious, and many of the poorer fishermen will have great difficulty in replacing their nets, owing to the high prices now prevailing. Fishermen attribute the loss to the exceptionally stormy weather experienced, and to the weak condition of their nets, owing to deterioration while the fishermen were on active service.

The losses during the year included also a large motor boat, sunk in collision with a drifter, while fishing 28 miles off Lowestoft. Fortunately there was no loss of life.

A. J. MUNRO,  
*Fishery Officer.*

FISHERY OFFICE,  
BUCKIE, 12th January 1920.

*Buckie District.*

The most important feature in connection with the fishing industry during the year under review was the release of the majority of the district fishermen and drifters from Admiralty service.

At the close of 1918, there were 250 steam and 12 motor drifters on Government service, and of these 183 steam and 11 motor boats were released during the year, thus bringing the Means of Capture nearer its normal condition than it has been since the commencement of the war. Another outstanding feature in connection with the "Means of Capture" is the great reduction in the number of first-class sail boats and the increase in the number of first-class motor boats.

The former shows a decrease of 123, compared with the number returned in the previous year. Of these 52 were fitted with motor engines; 11 were sold out of the district, and no fewer than 60 were broken up owing to their having become unseaworthy during the time their owners were on active service.

Owing to the majority of the district fishermen being employed exclusively at herring fishing from the chief herring fishing centres of England and Scotland, the value of fish returned as landed in the district, although higher than in 1918, represents only a small proportion of the fishermen's earnings.

It is estimated that the gross earnings of the crews who followed the herring fishing throughout the year amounted to close on £1,000,000, but, owing to the heavy working expenses at the present time, the aggregate net earnings would not amount to much more than half that amount.

Considering the amount of fish landed by district fishermen at other centres, the quantity landed at home ports was by no means unsatisfactory, being more than double that landed in 1918; the actual increase in the quantity landed is 65,550 cwts.

Owing to the prices being controlled, the total value, notwithstanding the large increase in the landings, was only slightly greater than in the preceding year.

Herrings were chiefly responsible for the improvement, showing an increase of 53,789 cwts. in quantity and £13,190 in value compared with the returns of the previous year. Haddocks also exhibit an increase of 4552 cwts. in the quantity, and £7342 in value. Cod and codling, on the other hand, whilst showing a considerable increase in quantity, fall short in value to the extent of £10,065.

During the opening months of the year, cod-net fishing received most attention. The number of boats which participated in this fishing was 76 (2 steam, 38 motor, and 36 sail), compared with 73 (4 steam, 31 motor, and 38 sail) in 1918.

Buyers had a fair season, but from the fishermen's point of view the results were not so satisfactory as in the previous year, for although the quantity of cod landed was 3894 cwts. more, the value was £22,557 less.

The average price per cwt. paid for net-caught cod was 52s. 4d. compared with 97s. 11d. in 1918. The fish landed were all sent in a fresh state to the home markets, chiefly to London and Midland towns.

At the close of the cod-net fishing fishermen set about getting their boats and gear ready for the summer herring fishing. This fishing will long be remembered by all concerned as one of the most unique and critical in the history of the fishing industry.

The fishing was begun at Buckie during the week ending 17th May by a few crews who operated in the Moray Firth, from 10 to 16 miles N.E. of Buckie. The herrings landed at this early date were immature, but



as the takes landed were generally light and were in demand for local consumption and for kippering purposes, fairly good prices were obtained.

Unfortunately the southern markets were unable to absorb a great quantity of these small herrings, and as the quality was quite unsuitable for curing purposes, prices fluctuated greatly, the first arrivals getting as high as 80s., while crews who arrived later in the day found difficulty in disposing of their herrings at 5s. per cran.

Fishermen finding the prices obtained for their fish insufficient to pay working expenses, decided at a mass meeting not to shoot their nets until curers guaranteed them a minimum price, and during the fortnight ended 7th June boats remained in harbour.

One Buckie crew who were operating from Fraserburgh when the resolution was agreed to, disregarded it by shooting their nets on their way home. Their take, which consisted of 25 crans, was put up for sale at Buckie, but at a meeting of fishermen held in the Fish Mart, it was decided not to allow the crew to land their herrings, and they were accordingly dumped in the bay.

A promise having been obtained from buyers as to a minimum price for a certain quantity of herrings landed each day, fishermen resumed fishing during the week ended 14th June.

At this date the quality of the herrings showed a marked improvement, but was still unsuitable for curing except for early consumption, of which there was no prospect.

The first arrivals obtained good prices for kippering and freshing purposes, but after this demand was supplied, prices quickly fell to a low level as on previous occasions.

During the week ended 21st June, fishermen were so dissatisfied with the prices they were getting that they once more resolved not to go to sea until the curers guaranteed a minimum price per cran for all herrings landed in good condition up to 5 p.m. This resolution was strictly observed, and during the week ended 28th June no herrings were landed.

At this critical stage in the negotiations between curers and fishermen, the announcement of the Government guarantee scheme for cured herrings brightened the outlook, and the good work done by the Board in connection therewith has been greatly appreciated by the trade.

There is no doubt that if the Government had not come to its assistance and removed the deadlock, the herring fishing industry would have been paralysed.

During July and August no further trouble arose between curers and fishermen. The latter prosecuted the fishing regularly and met with good result in the waters 50 to 70 miles N.E. and N.E. by E. of Buckie. Steady supplies of good quality were landed, and generally curers got as many herrings as their staff of workers could handle.

The season closed at the end of August with a total of 19,052 crans—the highest catch recorded for many years.

Of the total catch, 15,461 crans were cured, 5506 were kippered, and 1419 crans were freshed.

Curing was carried on at Portknockie, Findochty, and Buckie, and kippering by three curers at Findochty and six at Buckie, one of the latter being a new curer who erected a new kippering establishment during the spring months. Three additional curers received ground from the Town Council for herring curing yards at Buckie. Gutting sheds, etc., are in process of being erected, and the yards will be ready for use next season.

Of the total of 15,938 barrels of herrings cured, 13,941 were presented for the brand, and of these 12,430 barrels received the Crown Brand; 1180 were branded Grade 2; and 331 Grade 3.

The number that received the Crown Brand is the highest recorded for more than 20 years.

After the close of the summer herring fishing fishermen refitted for the East Anglian fishing. In this fishing 198 steam and 115 motor boats participated, and as a minimum price of 45s. per cran was assured to the fishermen, transactions between them and curers as a rule worked satisfactorily.

Weather conditions, however, were the worst experienced for many years, and as the fishing gear was in a weak condition, after having lain idle during the past five years, the loss of netting was great, the average loss being about 40 nets per boat.

Notwithstanding this, the results of the English fishing, on the whole, may be considered good.

The gross earnings of steam drifters ranged from £900 to £3000, the average being £1500, while the average gross earnings of motor boats were £850.

On their return from the English fishing a good number of the drifters and motor boats proceeded to the West Coast herring fishing, and made good earnings during December.

Small-line fishing was prosecuted to a greater or less extent throughout the year from all the creeks in the district, principally by the older fishermen who do not follow the herring fishing. The results of this fishing show a great improvement both in quantity and value compared with the previous year.

Boat builders were busily employed during the year refitting vessels which were released from Government service, and the only new boats built were three drifters to the order of the Admiralty.

In addition to the extensive slip and boat-building yards of Jones Buckie Slip & Shipyard Limited, two new slips and a new boat-building yard have been erected at Buckie during the year by two other firms, and reconditioning work is being carried on at all the yards.

During the latter part of the year all the coopers available were busily employed at barrel-making at Portknockie, Findochty, and Buckie.

Unfortunately a fisherman belonging to Buckie fell overboard from his fishing yawl, and was drowned.

A large motor boat foundered during the summer herring fishing off Copinshay, owing to the shaft of the propeller breaking away.

A. J. MUNRO,  
*Fishery Officer.*

FISHERY OFFICE, BUCKIE,  
12th January 1920.

#### *Findhorn District.*

As a result of the demobilisation of men from naval service and the completed reconditioning of a number of vessels released from Admiralty service, fishing operations were prosecuted on a considerably larger scale than during the previous year. The number of men employed was considerably more than double the number employed during 1918, the actual increase amounting to 630, while the number of vessels employed was greater by 56.

The large increase in the number of men and vessels available for fishing resulted in the abnormally high prices for fish prevailing during 1918 being substantially reduced, and while the district returns of fish landed during 1919 show an increase of 16,982 cwts. the value was £71,621 less than for the previous year.



The large majority of the fishermen were employed at herring fishing at the various large centres with fair results, although the heavy working expenses and the high cost of fishing gear materially affected earnings.

The Means of Capture Returns show several noteworthy changes during the year. Eleven steam drifters were sold to other districts, while there was an increase of 27 in the number of motor-boats, chiefly of the largest size, and a corresponding decrease in the number of large sailing boats. Not many sailing boats fit for the installation of motor-power are now left in the district.

Cod-net fishing was prosecuted during the spring months by a considerably increased fleet as compared with the previous season, but stormy weather frequently hindered operations, and the catches secured were seldom large. Good prices prevailed ranging from 4s. to 16s. per fish, and the general range of earnings was from £500 to £1300 per crew. The quantity landed was 3332 cwts. in excess of the landings during the previous season, while the value was £562 less. The whole of the catch was despatched in a fresh state, chiefly to Glasgow, London, and the Midland towns.

During the summer season herring fishing was prosecuted by the district crews chiefly from Wick and Fraserburgh where, during July and August, fair results were obtained, the gross earnings by steam, motor, and sail vessels averaging £1200, £700, and £400 respectively. The landing of herrings in the district during this period was practically confined to boats arriving home at the week ends, and the catch only amounted to 1750 crans against 840 crans for the previous season. The bulk of the catch was cured gutted, the general range of prices being from 17s. to 40s. per cran.

At the close of the summer fishing practically all the steam drifters and large motor boats available proceeded to the English fishing where considerably more remunerative prices for fresh herrings were obtained, earnings by steam drifters ranging from £800 to £2000, and by motor boats from £500 to £1100. A distinctive feature of the English season was the fixing of a minimum price of 45s. per cran to be paid to the fishermen in connection with the Government scheme for the purchase of cured herrings.

At Inverness, the small herring and sprat fishing was prosecuted during the first three and last four months of the year. Exceptional results were obtained in January when the maximum control price of £6, 6s. per cran was frequently paid for herrings. Thereafter the fishing fell off, and the fleet gradually dispersed. Operations were resumed in September, the number of boats employed ultimately amounting to 63. Both herrings and sprats were plentiful in the Inverness Firth, and during the progress of the English fishing prices fell as low as 8s. per cran. The fishermen then arranged to restrict catches to a maximum of nine crans per boat daily, but even with the restricted landings prices were frequently under 20s. per cran, although as high as 53s. was paid before the close of the year.

Practically all the herrings landed were despatched in a fresh state, chiefly to the southern markets, but the great bulk of the sprats, amounting to 9050 barrels, was cured with a preparation of salt, sugar, and spice for exportation to Sweden. Compared with the previous year the total landings at Inverness showed an increase of 17,744 cwts., but a decrease in value of £12,969.

Line fishing was not so vigorously prosecuted as during the previous year, and the quantity and value of haddocks landed show a decrease of 5512 cwts. and £39,495 respectively. Considerable difficulty was frequently experienced during the early part of the year in securing

supplies of mussels for bait, and during the summer months fishermen found it expedient, owing to low prices, to restrict landings to some extent. During the year prices for haddocks ranged from £5 down to 10s. per cwt., the average being 38s. 6d. against 56s. during the previous year. A largely increased quantity of haddocks was smoked during the year, several small kilns being erected in the district.

Boat builders were kept fully employed, but the output of fishing vessels amounted to only 8 motor boats, and 1 steam drifter built at Lossiemouth to the order of the Admiralty. Barrel-making was conducted on a very small scale, coopers being employed chiefly at fishing stations.

In August, a Nairn fisherman was lost off Fraserburgh, through falling overboard.

One steam drifter was wrecked at the harbour entrance at Lossiemouth during the cod-fishing season, and 2 motor boats were wrecked in the harbour during a severe storm towards the close of the year. A considerable loss of netting was experienced by a number of crews who took part in the English fishing.

Of 127 district vessels in the employment of the Admiralty at the date of the armistice, 76 resumed fishing during the course of the year, the remainder having yet to undergo reconditioning.

WILLIAM SINCLAIR,  
*Fishery Officer.*

FISHERY OFFICE,  
LOSSIEMOUTH, 16th January 1920.

#### *Cromarty District.*

The number of district fishermen employed during the year under review shows an increase of 86 as compared with the number employed during the previous year, and while line fishing was prosecuted from most of the creeks with fair results, the majority of the fishermen confined their attention to drift-net fishing, which proved so highly remunerative during the previous year.

The small herring and sprat fishing in the Inverness and Beaully Firths, which had been prosecuted continuously during the last four months of 1918, was continued during the year under review, and during January the average earnings of the district crews employed amounted to £700 per crew of five men. Prices for herrings during this period ranged from £5 to £6, 6s. per cran.

Operations were continued during February and March by a number of crews, but although prices continued high, the catches were light.

The fishing was resumed in September, and the number of district crews gradually rose to 45, against 30 during the previous year.

Both herrings and sprats appeared to be abundant, but owing to the poor demand in the southern markets, fishermen frequently experienced considerable difficulty in disposing of their catches, which resulted in their arranging to restrict landings to a maximum of nine crans per boat daily. This arrangement was duly carried out for the remainder of the year, even when prices rose as high as 50s. per cran.

While the average price realised during January was £5, 17s. per cran, the average price for the last four months of the year was 20s., and the general range of earnings for the latter period from £200 to £400 per crew.

The quantity of line fish landed shows an increase of 1932 cwts., but the value was £1469 less than in the previous year. Haddocks accounted for fully seventy per cent. of the line fish landed, and realised on an average 9s. per cwt. less than during the previous year.



Cod-net fishing during the spring months received considerably more attention than previously, and the quantity landed and value realized show increases of 1198 cwts. and £2389 respectively. In addition to the landings by local crews, a considerable number of small takes were landed by crews from the south side of the Moray Firth, who were fishing in the vicinity of Tarbet Ness. Portmahomack was the principal centre, and the fish were all despatched in a fresh state.

Seven first-class sailing boats from Avoch were fitted out for the summer herring fishing, and were employed chiefly at Fraserburgh, their gross earnings ranging from £300 to £500 per crew.

There was an increase of 7 in the number of motor boats belonging to the district, 6 of which were acquired for line fishing.

One new motor boat of 26-feet keel was built at Avoch for drift-net fishing, and orders for a few others of similar size have been placed by Avoch crews.

Second-class sailing boats show an increase of 7, several being bought from other districts for the prosecution of the herring fishing at Inverness, but a further decrease of 5 in the number of first-class and 16 in the number of third-class sailing boats took place during the year.

Lobster and crab fishing was not so actively prosecuted as during the previous year, but there was a considerable increase in the output of mussels as a result of the difficulty experienced by line fishermen in adjoining districts in getting supplies elsewhere.

Fortunately there was no loss of life in connection with the fisheries during the year.

WILLIAM SINCLAIR,  
*Fishery Officer.*

FISHERY OFFICE,  
*Lossiemouth, 17th January 1920.*

#### *Helmsdale District.*

The results of the fisheries in the year 1919 show, when compared with those obtained in the preceding year, a considerable decrease in quantity, and a still more marked decrease in value. The total catch, exclusive of shell-fish, amounted to 20,081 cwts., valued at £33,773, as compared with 28,140 cwts., valued at £68,999 for the year 1918. The decline in quantity is attributable to the comparative scarcity of haddocks during 1919, the quantity landed last year being 7894 cwts. less than in 1918. The great difference in value is due to the abnormally high prices which obtained during 1918, the average price per cwt. in 1919 and 1918 being 33s. 7d. and 49s. respectively.

In the "Means of Capture" Returns a further increase in the number of motor boats has to be recorded, 11 being added during the course of the year. The total number of motor boats in the district is now 36. Only one of the additional boats was new, the remainder being composed of five which were purchased from other districts, and five locally owned boats which had engines installed. As a result the fleet of sail boats is steadily diminishing. Save for two third-class boats, all the additional boats were second class. The increase in the number of motor boats would probably be more rapid but for the considerable delay in the delivery of motor engines. Another factor which is militating against the increase of motor boats is the lack of suitable harbour accommodation. This state of matters exists especially at Embo.

Belonging to this village, which contains the largest fishing population of any creek in the district, there are only 2 small motor boats, and

until some improvement is made on the harbour the likelihood of much further progress is remote.

As in the past few years, the attention of the fishermen has been centred mainly on the prosecution of the fishing from the various creeks in the district. Formerly it was customary for many of the fishermen to engage either as hired hands or with nets, for a considerable portion of the year, in boats following the herring fishing at the principal centres. In view, however, of the uncertainty of the herring fishing at the commencement of the season in 1919, most of the fishermen considered it advisable to continue at small-line and hand-line fishing. Line fishing is by far the most important fishing in the district, and during 1919, of the total landings 82 per cent. was caught by lines. Of this quantity 75 per cent. was landed by motor boats. Haddocks, cod, and codlings were, as usual, the principal kinds of fish landed, and practically the whole of the catch was despatched fresh to the southern markets. A few haddocks, however, were smoked in Golspie and also in Helmsdale.

Prices were very low during the warm weather owing to the fish arriving at the markets in an unsatisfactory condition through lack of ice and delay in transport. On this account the fishing was not prosecuted so energetically during the summer months as it otherwise would have been.

From February until about the middle of April cod-net fishing was carried on by a fleet of 24 motor and 2 small sail boats, Helmsdale and Golspie being the chief centres. Unfortunately, owing to adverse weather conditions, this fishing was not a success, some of the boats not making sufficient to clear expenses. A few of the motor boats were, however, more fortunate, and had earnings of over £500. The average gross earnings for motor boats were £280, while the two sail boats averaged £76 for the season. Catches ranged from 7 to 480 cod.

Herring fishing in the district is practically non-existent, and only 109 crans, valued at £152, were landed during the year. These were landed at Dunbeath during August and September by four small sail and two small motor boats. Practically all were cured for consumption locally.

Two steam drifters, two large motor boats, and three large sail boats belonging to the district were engaged at the herring fishing at Wick during the summer season, the drifters and one of the motor boats being manned by crews from other districts. The average gross earnings of these vessels were, for steam drifters £1535, motor boats £950, and sail boats £212. In addition to these, one second-class motor boat belonging to Golspie prosecuted herring fishing on the West Coast with satisfactory results.

Three steam drifters were employed at the East Anglian fishing, their average gross earnings amounting to £1620.

There was an increase of £261 in the value of shell-fish, chiefly owing to the increased attention paid to lobster fishing, the value of lobsters being £434, as compared with £47 in the previous year. There was, however, a considerable decrease in the value of unclassified shell-fish.

Very few barrels were made during the year, only one firm having coopers employed at this work.

Practically the whole of the district fishermen who served in the Navy or Army have now been demobilised, and have resumed fishing.

The amount of damage to boats and loss of gear throughout the district was not great, and happily no lives were lost in connection with the fisheries.

JOHN BUCHAN,  
*Fishery Officer.*

FISHERY OFFICE,  
HELMSDALE, 13th January 1920.



*Lybster District.*

The return to peace conditions did not lead to any increased activity in the prosecution of the fisheries from the creeks of Lybster district. The fishermen engaged as usual in small-line and hand-line fishing, and during the months of August and September in drift-net fishing. These operations were all conducted in the inshore waters off the coast of the district, and only small motor and sail boats were employed. High prices for fish when the war was in progress resulted in increased earnings for the fishermen employed, but in the year 1919 the markets were well supplied with fresh herrings and kippers, and with other fish from the trawling ports, and there was a big drop in prices, with a corresponding fall in the fishermen's earnings.

Line fishing received little attention during the six months from April till September, and was most actively prosecuted in the first and last quarter of the year. The catches of the line boats were composed almost entirely of codling and haddock. The average prices received by the fishermen were :—codling, 34s. 9d. per cwt., and haddock, 29s. 3½d. per cwt., as against 50s. 5d. and 53s. 10½d. respectively in the year 1918.

From the middle of August till 13th September 15 small sail boats were employed more or less regularly at inshore herring fishing, but met with little success. On 6th August one of the crews secured a shot of 18 crans, which was landed at Wick and disposed of at 60s. per cran. With that exception the results were extremely poor, the total quantity landed in Lybster district amounting to only 160 crans, valued at £282.

The total quantity of fish landed in Lybster district in the year 1919 amounted to 3047 cwts., valued at £4350, or 179 cwts., and £3049 less than in 1918.

During the summer months crabs and lobsters to the value of £142 were landed at Latheronwheel and Lybster. Only a few creels were used by the fishermen of these creeks, and for the number used the results were considered fairly satisfactory.

In the year 1919 one fish-curer carried on curing operations at Lybster, and obtained the bulk of his supplies by rail from Wick. Owing to the light landings of herrings at Lybster only a small business was done, the total output being 7560 boxes of kippers and 70 barrels of herrings cured gutted.

Owing to a difficulty in obtaining barrel-making material only 400 herring barrels were constructed at Lybster during the year 1919.

A number of the fishermen were employed at the summer herring fishing as hired men on boats belonging to Wick, and secured in most cases fairly satisfactory earnings.

ALEXANDER WOOD,  
*Fishery Officer.*

FISHERY OFFICE,  
Wick, April 1920.

*Wick District.*

The herring fisheries of Wick district, practically suspended during the whole period of the Great War, were recommenced, and carried on successfully in the year 1919, and herrings, for the first time since the year 1914, occupied their accustomed and principal place in the district returns of fish landed. The total quantity of net and line fish landed within the district in the year 1919 amounted to 460,457 cwts., valued at £274,340, and herrings accounted for 92·7 per cent. of the quantity, and 79·1 per cent. of the value. Although progress towards the re-establishment of

the industry was retarded in many directions owing to shortages of various essentials, it is satisfactory to note that, as regards the statistics of fish landed, the returns for the year 1919 compare not unfavourably with those for the four years preceding the year in which the war commenced :—

	Net and Line Fish.		Shell-Fish.
	Quantity Landed. Cwts.	Value. £	Value. £
1919 . . .	460,457	274,340	3506
1913 . . .	454,480	233,136	4016
1912 . . .	641,765	236,541	4327
1911 . . .	574,154	191,343	4621
1910 . . .	628,487	171,996	4402

From 14th January till the end of February a fleet varying from 20 to 45 vessels, of which 3 steam drifters and 13 motor boats were locally owned, prosecuted the winter herring fishing, and landed their catches at Wick and Scrabster. The principal fishing grounds lay off the North Coast between Strathy Point and Loch Erribol, and in the latter part of the season, between Cape Wrath and the Butt of Lewis. During the first four weeks of the fishing, south and south-east winds suited the fishing well, and for the small fleet the landings were exceptionally heavy. The herrings were of excellent quality, and they invariably met with a keen demand, and realised high prices, the average price for the season being 85s. 9d. per cran. The total catch amounted to 18,287 crans, and the total value to £78,474. Of the total landings, 7943 crans were kippered, the remainder being disposed of fresh, and practically the whole of the catch was sent to the southern markets, principally London. The gross earnings of the local boats at the winter fishing varied from £828 to £2955, and, in general, the fishing proved a profitable one for both fishermen and buyers. During the season a shortage of railway fish trucks caused anxiety to the trade, and on many occasions the fresh herrings had to be sent to market by express goods train. Buyers on several occasions suffered sharp losses through their consignments on these trains being delayed in transit, and arriving at the market in a deteriorated condition. Early in the season a shortage of carts at Scrabster caused great congestion at the harbour on days when the landings were heavy; and how to get the fish conveyed to the rail head at Thurso was a serious problem for the buyers. In order to meet the situation, the Naval Authorities for two days lent four of their motor lorries, an action which was much appreciated by the trade. Later some of the buyers were able to engage a traction engine, which, drawing two waggons capable of taking 100 barrels at a time, effectively solved the difficulty.

The Moray Firth cod-net fishing commenced in the month of January, and was carried on until the second week of April. The results were poor when compared with those of previous years. The unsatisfactory results were caused by a spell of unsettled and stormy weather which began about the middle of February, and lasted up till the end of the season. The total quantity of net-caught cod landed at Wick during the season amounted to 5846 cwts., valued at £12,033, as compared with 13,059 cwts., valued at £44,445, in the year 1918. As a rule the cod landed were of good quality, and they were all sent fresh to the southern markets. The average price was 41s. 2d. per cwt. as against 68s. 1d. per cwt. in the year 1918. Ten local crews of motor boats participated in this fishing. These crews had been engaged at the winter herring fishing, and did not commence the cod-net fishing until towards the close of February. Their gross earnings at the cod-net fishing varied from £180 to £700.



As the time approached for commencing the summer herring fishing, the prospects for that fishing were dark owing to the disorganised condition of Russia and Germany—the principal markets for cured herrings. It was well known that a highly efficient fleet of fishing craft would engage in the fishing, and, as the vessels were likely to carry on fishing operations in areas which had been closed since the beginning of the war, it was generally expected that the fishing would be heavy, and that a large percentage of the catch would have to be cured gutted for consumption abroad. The fears of the fishermen regarding the price they were to receive for herrings landed, and of the curers as to the marketing of their cured herrings, were dispelled by the Government guaranteeing to take over the great bulk of the season's cure at prices which were calculated to insure to fishermen and curers a working profit.

The summer herring fishing was commenced on 15th May by a small fleet which increased steadily until the middle of August when it consisted of 185 vessels. It is noteworthy that at Wick only 5 sail boats were employed at the summer fishing, as against 145 in the summer fishing of 1914. During the war period the majority of these boats were fitted with motor engines, although a considerable number became unseaworthy. In May the boats operated off the North Coast in the vicinity of Whiten Head Bank and Sule Skerry, and secured fairly satisfactory results. The herrings landed were of the Matje description, and were bought chiefly for kippering and freshening purposes. In June the fleet had increased to 70 vessels, and fishing operations were extended to the Moray Firth. From that time on to the end of the season, the principal fishing grounds of the Wick fleet lay from 10 to 50 miles off Wick in an east by south to east by north direction. On these grounds herrings were very plentiful, and day after day throughout the months of June, July, and up to the 23rd of August, without a break except on Saturday 19th July—Peace Day—which was observed as a general holiday, the boats returned to port with a heavy fishing. Never could there have been a more regular fishing. From 1st July to 23rd August the weekly catches landed at Wick varied from 5500 crans to 14,314 crans, the average being 10,456 crans. In general throughout the season the herrings were of very fine quality, and were usually landed in excellent condition.

By the middle of June gutting operations had been commenced by the majority of the curers. Some of the firms, however, were employed in a profitable kippering business, and did not begin to cure gutted until the middle of July. There was a great shortage of women workers. In that respect practically all the curing establishments were under-staffed, and several curers, having failed to secure gutters and packers, were unable to do any business during the summer season. Usually gutting began early in the day, and was continued as long as the women could see.

There was little time for the making up of cured herrings, and the curing yards became filled up with seasticks, three tiers high. A number of the curers, owing to lack of room, had to leave their yards, and remove to vacant plots in order to continue curing operations. About the middle of August occasional shots of spents were landed. On the 19th the sail boat "Unity" W.K. 180 arrived at Wick with 90 crans of spent herrings. No curer could be got to buy this shot, and it was sold to the guano factory at 4s. per cran, and converted into manure. The following week the stranger boats began to leave for home, and the season practically closed on 23rd August. The total catch for the summer season amounted to 101,050 crans. The value thereof was £130,110, the average price working out at 25s. 9d. per cran. Of the total catch 102,272 barrels were cured gutted, and 3246 barrels were cured ungutted. 14,112 crans were kippered, and 4540 crans disposed of in a fresh state.

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The Government guarantee for cured herrings proved of great benefit to the trade. It assured curers of a fair, if not a large profit on their curing transactions. It also formed a basis for the sale of cured herrings. Having in view the prices Government were prepared to pay, dealers in cured herrings came forward early, eager to secure the supplies they required. Thus, at the end of the season, when the curers handed over what they had to give to the Government, there remained no unsold cured herrings on hand in the district. The quantity handed over to the Government by the curers of Wick district amounted to 35,194 barrels. The local craft employed at the summer herring fishing consisted of 8 steam drifters, 26 motor boats, and 1 sail boat. The gross earnings of the steam drifters varied from £1130 to £2730, and of the motor boats from £800 to £2190, while the sail boat grossed £543. In normal times these earnings would have been exceedingly satisfactory, but in 1919, owing to the high working expenses, and the high prices of fishing material, they were inadequate.

As women workers were scarce their services had to be paid for at a high rate, and never in the history of the fishing industry were the earnings of gutters and packers, and women employed at kippering, so high as in 1919. The same applies to those of the coopers who were able to find employment, and in the year 1919, for the first time, they were paid for extra hours worked. Unfortunately there was a good deal of unemployment among coopers owing to a shortage of barrel-making material.

No new markets were discovered by local exporters in the year 1919, but in Russia and Germany, both suffering from a food shortage, there was a keen demand for cured herrings, and there is no doubt an enormous quantity could be placed in these countries if a solution of the exchange problem could be found.

During the year 74,847 barrels of cured herrings were exported direct, viz. :—to Germany, 45,525; Russia, 18,714½; Norway and Sweden, 9211½; and 1396 to France. 14,205 barrels were despatched coastwise and by rail, chiefly to Liverpool, Glasgow, Leith, and Aberdeen for transportation, and at the close of the year there remained on hand in the district 16,762 barrels.

In the first quarter of the year 8 crews of fishermen in small motor boats carried on a successful great-line fishing from Thurso, the landings being composed chiefly of halibut and skate. A considerable amount of hand-line fishing was also carried on from Thurso, and the landings of line fish at that creek and at Scrabster together account for 35·6 per cent. of the quantity, and 37 per cent. of the value of all line fish landed within the district. With Thurso excepted, the results of line fishing prosecuted from the creeks of the district were disappointing, and compare unfavourably with those obtained in the year 1918, the decrease amounting to 265 cwts. in quantity, and £22,379 in value. A considerable quantity of hand-line cod and saithe (stoker fish) was landed in the year 1919 at Wick and Scrabster from boats employed at the herring fishing.

In October, 1 steam drifter and 8 motor boats went from Wick to the Yarmouth herring fishing, which, owing to stormy weather, was not so productive as usual. The gross earnings of the Wick vessels at Yarmouth varied from £513 to £1550. All the crews lost a considerable quantity of gear. The aggregate loss from this cause was estimated at £1400.

Two extensive fires occurred at Wick (one in March and the other in July) in which 7 curers and curing firms were involved. In each case the fire originated in a kiln where herrings were being kippered, and spreading to neighbouring buildings, caused great destruction to fish-curing premises. Three kippering establishments, several cooperages, barrel stores, etc., were utterly destroyed, together with practically the whole of



their contents. The loss caused by the two fires was estimated at £12,000. In each case the loss was wholly or partially covered by insurance. At the close of the summer fishing season, the rebuilding of the ruined properties was commenced, and, at the end of the year, the work of restoration had almost been completed, and the three kippering premises were in a condition to admit of their being used during the winter herring fishing of 1920.

At Wick and Thurso a number of old kippering premises were renovated and equipped, and the kippering capacity of the district was thereby greatly increased. At Wick a factory was also built and equipped with machinery for the production of fish guano. The addition of this factory to the one which was previously in operation at Wick will insure the curers' getting a speedy clearance of all herring gut and fish offal from their curing yards and fish-houses, and should result in a large increase in the local output of oil and fish guano.

It will be evident, from the quantity of fish dealt with in the year 1919, that a good step has already been made towards the reorganisation of the fishing industry of the district. Shortages of working material—bunker coal, fishery salt, barrel staves, hoops, box-wood, etc.,—due chiefly to transport difficulties, hampered progress considerably. These conditions, however, will be remedied as shipping facilities increase.

The following statement shows the average prices received by the fishermen for the principal kinds of fish landed in Wick district in 1919, and 1918.

	Herrings.		Cod.		Haddock.		Halibut.		Skate.	
	per cwt.		per cwt.		per cwt.		per cwt.		per cwt.	
	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
1919 . . . . .	10	2	34	8	20	10 $\frac{3}{4}$	109	8 $\frac{1}{4}$	23	0
1918 . . . . .	25	0	58	4	40	8	147	5 $\frac{3}{4}$	30	1 $\frac{1}{4}$

A large percentage of the haddocks returned for the district are landed at outlying creeks on the North Coast, remote from the railway, hence the reason for the comparatively low value of these fish.

ALEXANDER WOOD,  
*Fishery Officer.*

FISHERY OFFICE,  
WICK, April 1920.

#### *Orkney District.*

Despite the fact that the fishermen were no longer hampered by the stringent restrictions on fishing operations which were in force during the war, the results of the fisheries of Orkney district for the year 1919 were rather disappointing. Hopes were entertained that during the year the industry would be to a great extent re-established, and that a great improvement on the results for the preceding year would be recorded. Unfortunately, however, these expectations were not realised, mainly because the principal herring fishing grounds to the eastward of the Orkneys were occupied by extensive minefields, which could not be cleared up before the end of the summer. In the spring, notice to that effect was given to fishermen and fishcurers, who, accordingly, made no preparations for the catching and curing of herrings in the district, and this most important branch of the industry received little attention during the summer. In normal pre-war years the herring fishery accounted for about 90 per cent. of the total quantity and value of all fish landed in Orkney district, whereas in 1919 it accounted for only 38 per cent. of the total quantity, and 10 per cent. of the total value.

The total quantity of fish landed (excluding shell-fish) was 15,283 cwts. and the total value £18,053, an increase of 3935 cwts. in quantity, but a decrease of £1631 in value as compared with the results obtained in 1918. Inclusive of shell-fish, the total value amounted to £25,957, which exceeds the total value for the previous year by £460.

In June the crews of 2 local sail boats commenced herring fishing from Kirkwall, operating on the west side grounds. For some time their efforts were unrewarded, but on 17th June they landed at Kirkwall 40 crans of splendid quality herrings—the first landed in the district since 1914. Subsequent trials on the same ground proved unsuccessful, and the fishermen turned their attention to the inshore grounds on the east side. A few small takes of immature fish were landed from that area, but for some weeks the herring fishing was practically at a standstill. About the middle of July, however, large shoals were located on the grounds off Copinshay, and for a period of five weeks a regular fishing was landed in this district by several steam and motor drifters belonging to East Coast ports. The bulk of the catch was landed at Stronsay, where one curing station was opened, but a few takes were landed at Kirkwall, at which port one local curer conducted operations on a small scale. The total yield of the herring fishing in the district was 1665 crans, valued at £1885, and 1811 barrels were cured gutted. Of the total cure 1621 barrels were handed over under the Government guarantee for cured herrings, and were shipped to Germany in December. The remainder were disposed of locally.

During the season prices for fresh herrings varied from 16s. to 41s. per cran, the average being 22s. 8d. per cran, a figure which, in view of the high working expenses, would leave a very small margin of profit to the fishermen.

The dangers to which fishermen were exposed while prosecuting the herring fishing in Orkney waters were clearly demonstrated on more than one occasion. A local sail boat, which sailed for the fishing grounds on 1st July, failed to return, having presumably come in contact with a floating mine, and been blown up with all hands. Two weeks later the crew of a Moray Firth motor boat lost their entire drift of nets, in which a number of mines had become entangled.

The line fisheries yielded poorer results than in the previous year. Many of the crofter fishermen gave no attention to this branch of the industry, while stormy weather frequently compelled those who did to suspend operations. The total landings of line fish amounted to 9355 cwts., valued at £16,163, a decrease of 1593 cwts. and £3509 as compared with the returns for 1918. The average prices paid to the fishermen for the principal kinds landed were:—cod, 34s. 5d.; haddock, 34s. 8d.; and halibut, 87s. per cwt., as against 39s. 9d., 37s., and 100s. 4d. per cwt. respectively in the preceding year.

The demand for line-caught fish was good throughout the year, more especially while H.M. ships were stationed in Orcadian waters. Local supplies often proved inadequate, and to meet the demand considerable quantities of both fresh and cured fish were brought into the district from Shetland, Aberdeen, and Wick.

Lobster fishing was prosecuted at most of the district creeks with highly satisfactory results. A larger number of fishermen were employed than in the previous year, better takes were secured, and slightly higher prices were received. The total landings for the year amounted to 88,338 lobsters, for which the fishermen received £7574—an increase of 40 per cent. in both number and value on the results obtained in 1918. During the year prices for lobsters varied from 10d. to 2s. 9d. each, the average being 1s. 8½d., compared with 1s. 8d. in 1918, and 1s. 6d. in 1917.



The total value of shell-fish, namely, £7904, exceeds that of the previous year by £2091, and is the highest recorded for some years.

During the year 4 sailing boats of the first class were sold to other districts, while one had a motor engine installed. There are now only 14 large sailing boats belonging to Orkney district, and in all probability the number will be still further reduced in the near future.

In addition to the large herring boat, 8 small boats employed at line and lobster fishing were fitted with motor engines. One boat of this class was sold out of the district, and 3 were purchased from other districts, bringing the total number of motor boats up to 41, as compared with 30 in the year 1918.

Four sail boats belonging to Burray were fitted out for the summer herring fishing. These boats fished from Lerwick, and had a remunerative season. Their gross earnings ranged from £520 to £910, averaging about £700, which was considered very satisfactory. One motor boat manned partly by Orkney fishermen participated in the autumn herring fishing at Yarmouth, but the voyage proved unremunerative, owing to the high working expenses and a considerable loss of gear.

Being less busily engaged on Admiralty work than during the war, boatbuilders were able to turn their attention to the building of fishing craft, and during the year 16 small boats of from 10 feet to 16 feet of keel were built to the order of local fishermen.

Barrel-making was confined to one cooperage at Stronsay, where four coopers were employed during the greater part of the year.

The loss of fishing gear was rather heavier than usual, the lobster fishermen being particularly unfortunate in this respect.

ROBT. H. JOHNSTON,  
*Fishery Officer.*

FISHERY OFFICE,  
KIRKWALL, 9th January 1920.

*Shetland District.*

Although the restrictions on fishing operations were practically all removed during the first year of peace, the outlook of all those interested in the most important of the district fisheries was even more gloomy than in the three immediately preceding war years. The trade realised that dealings in cured herrings in the continental markets could not be effected by the ordinary methods, and as the summer season approached there was a general air of depression abroad. Curers and fishermen came to the conclusion that the situation was beyond solution by private enterprise alone, and perplexity and inaction prevailed till the end of May, when curers finally decided not to open their premises. A small number of crews launched their boats in the hope of selling their catches for kippering and freshing purposes, but more herrings were landed than could be dealt with, and on more than one occasion, both at Lerwick and Scalloway, hundreds of crans had to be sold for manure or returned to the sea. This deepened the depression, and fishing operations were suspended. On the announcement of the Government guarantee for cured herrings, however, an immediate change took place. Curers hastened to engage female workers and fishermen to fit out their boats. All the resources available were brought into action, and from June to September were taxed to the utmost, as daily supplies were usually up to, and over, the working capacity of the trade. Spent herrings appeared early on the grounds, and this, combined with a break in the weather early in September, brought the season to an abrupt close. In

July and early August herrings were of exceptionally good quality, a large proportion consisting of well developed fish. Curing operations were occasionally retarded for want of salt, and the scarcity of gutters and packers was also felt to some extent.

All the curers safeguarded themselves by accepting the terms of the Government guarantee, but many had a latent hope that they would be able to dispose of their stocks by private means. Fishermen were not paid quite the maximum aimed at in the Government scheme, the comparatively heavy landings and the limited resources at the disposal of curers, as also the hope of effecting a clearance of stocks by ordinary methods tending to depress prices for fresh herrings. The grading of cured herrings worked smoothly, and the new branding regulations fitted the situation well.

Of the total cure of 154,652 barrels, 56,278 barrels were handed over to the Government. The American market absorbed 23,000 barrels of matjes, la. fulls, and fulls at remunerative rates. Seventy-five thousand barrels chiefly of early cures were sold to dealers for shipment to the continental markets at prices approximating to the Government rates. The average prices paid for fresh herrings were, May 24s., June 20s., July 35s., and August (when spents predominated) 16s.10d. per cran, the average price for the season being 26s. 4d. per cran. The season would have been highly remunerative to the district fishermen but for the early appearance of spents in August. Even with that unfortunate happening the crews of many sailing boats grossed from £600 to £1300. Large motor boats grossed from £1600 to £2800, and steam drifters from £2000 to £2800.

The winter herring fishing was neglected, and spring was well advanced before any attempts were made on the usually prolific northern grounds off Flugga. Fishermen knew that there would only be a limited demand for kippering purposes, and that a very small fleet would keep the market supplied.

The company which has the monopoly of the ordinary transport trade of the islands improved its service to Aberdeen during the summer months. Two steamers sailed direct from Lerwick weekly and one from the west side. Curers were able to place consignments of kippered and sprinkled herrings on the southern markets in good condition.

So far as the conveyance of fish by road from the outlying parts of the district is concerned, there are meantime sufficient motor lorries in Lerwick to deal with a larger amount of traffic. Whalsay and Skerries fishermen are gradually acquiring second-class motor boats, and if fishermen at other northern parts were to follow their example, the question of transport of fish to centres for despatch south would practically be solved. So long, however, as crofting and fishing go hand in hand line fishing cannot be developed to the fullest extent.

Line fishing continued to be of subsidiary interest. Great-line fishing could be prosecuted to greater advantage even though the catches of cod, ling, etc., were wet-salted and sold in that condition by the fishermen. Wet-salted cod, etc., to the value of £9874 were imported from F  roe and dried in kilns at Lerwick.

Although the earnings of motor boats at line fishing were not so high as in recent years, still they were sufficient to warrant a further expansion in this direction.

Shetland crofter fishermen were perhaps less affected by war conditions than the majority of regular fishermen on any part of the Scottish coast. They were always able to prosecute herring fishing, and the produce from the crofts also yielded a better return. The women made good earnings knitting Shetland goods.



Regular fishermen who combine line with net fishing]exceeded]pre-war earnings.

The transition from sail to motor propulsion went steadily on during the war, and was accelerated during 1919. Twenty-one boats were added to the motor fleet, 11 of these being first-class boats and 10 second class. One was a new boat built in the district, and the others were previously sailing boats belonging to the district.

Herring fishing being the chief source of income, anxiety will probably prevail until the Continental markets reach a state of comparative stability. Curers are, however, apparently viewing the future hopefully to judge from the renting of vacant curing-stations at Lerwick and elsewhere. Practically all the Lerwick stations are now let. The staffs of the barrel factories are being brought up to pre-war strength, and machinery is again in action. All the coopers in the district were actively employed at the close of the year. Barrel-making material is, however, difficult to obtain, and curers are practically working from hand to mouth.

The high cost of fishing-gear and stores of all kinds is causing fishermen some anxiety, and unless the upward movement is arrested it is feared that fishing will become unremunerative.

I have the honour to be,

SIR,

Your obedient Servant,

ALEXR. E. M'KENZIE.

FISHERY OFFICE,  
LERWICK, 7th January 1920.

#### *Stornoway District.*

The returns of fish landed in Stornoway district during 1919 show decreases of 51,340 cwts. and £109,916 in quantity and value respectively when compared with the figures for the preceding year. Herrings account for the shortage, cod, ling, etc., showing increases.

The Means of Capture Returns show an increase of 7 steamers, the total number now belonging to the district being 18. Motors for large sailing vessels are not favoured here, past experience of various types of engines having had a decidedly deterrent effect, and consequently no progress was made in the direction of converting sail boats of the largest size. Those crews who installed motors in half-sized boats in the southern section of the district, however, quite appreciate this mode of propulsion, and Kelvin engines of 13-15 h.p. were installed in 2 more boats of this type. The number of motor boats on the register remains the same as in 1918, 2 boats having been sold outside the district.

Results from the winter herring fishing were rather disappointing both to the fishermen and the merchants handling the fish. There was not the same demand for kippered or fresh herrings as in the previous year, this being partly accounted for by the fact that spent herrings appeared much earlier than usual. Norway was a strong competitor, and other food stuffs were becoming more plentiful. At the same time, kipperers had a fairly satisfactory season, though the freshers made a rather hasty exit from the port.

The most successful steamer grossed about £3600, while the average earnings were £1800. The motor boats averaged about £1100. The season closed with a deficiency of 32·8 per cent. in quantity and 37·6 per cent. in value as compared with 1918.

The summer herring fishing was as usual conducted chiefly by sailing craft. During May the quality was poor and markets bad, and kippers

fell to as low as 1s. per stone. It was, therefore, not surprising that fishermen and curers were inclined to take a pessimistic view of the prospects for the season. However, business immediately took a turn for the better, and was satisfactorily maintained until the close of the year. The average earnings of steamers and motor boats were similar to those for the winter fishing, while the sailing boats' average was about £500. The catch shows an improvement of 49 per cent., but the value a depreciation of 14·5 per cent. when compared with the corresponding period of 1918.

Great-line fishing in the district is only carried on intermittently. A few steam drifters prosecuted this mode of fishing for a short time between the winter and summer herring fishings, and fair quantities of cod and saithe caught by the "ripper" were landed by these vessels during the first quarter of the year. As much as £20 each per week was earned by some of the men, this being in addition to their ordinary earnings, and called "stoker."

Small and hand lining is of little account from a commercial point of view, but is a valuable asset to those who fish for their own consumption. Broadbay is the principal fishing ground, and the fishermen living around its shores derive a fair livelihood from its prosecution. The results for the year under review show a very considerable advance on 1918.

The value of the lobster fishery was very similar to that of the preceding year.

Barrel-making was again practically non-existent, stocks being brought from the East Coast.

Lord Leverhulme is constructing roads in various parts of the island, and plenty of employment was available for the occasional fishermen if they had cared to accept this kind of work. It is understood that a number of them took advantage of the opportunity.

The headquarters of the "Mac" line of trawlers have been transferred from Stornoway to Fleetwood. The reasons for this are not quite apparent to the casual observer. It is thought by many people that the transfer will be a decided loss to the community of Stornoway from a business point of view.

While the kippering and freshening branches of the industry are normal, it will evidently be some time before the curing branch becomes so. Trade with America is gradually expanding, and a new market has been discovered in Rumania, to which country a quantity of cured herrings has already been shipped direct, while it is understood that further business is pending as the initial transaction proved a remunerative one. With more settled conditions on the Continent the future of the industry would be well assured.

The Government guarantee worked satisfactorily, and doubtless the trade are grateful for the aid afforded them in an extremely difficult situation.

The carriers provided by the Ministry of Food for the transport of fresh, kippered, etc., herrings to the railway termini on the Mainland during the winter fishing provided an efficient service.

Strangers coming to Stornoway to take part in the seasonal fishings found great difficulty in securing decent quarters. Numbers of men and women for a time had recourse to sleeping in smoke kilns and other strange places. If something is not done to improve this state of matters workers say they will in future decline to engage to work at the port. Charges, too, for lodgings are said to be excessive.

On the whole the inhabitants of Lewis were never so well off pecuniarily, and no one need be idle who cares to work.

Scarcely a year passes without some loss of life in connection with



the fisheries, and the year under review was no exception. One man was washed overboard from a steam drifter while the ship was proceeding from the fishing grounds in Loch Glendhu to Stornoway.

In the early hours of the morning of 1st January of the year under report an appalling disaster occurred. H.M.S. *Iolaire* was conveying a large number of men, going home on leave from service, from Kyle to Stornoway. When near the entrance to the harbour the vessel struck the Beasts of Holm, and immediately became a total wreck. 206 men perished, the great bulk of whom were Lewis fishermen, and although the occurrence was unconnected with fishing, it naturally falls to be noticed in the records of the district fisheries.

W. M. WARES,  
*Fishery Officer.*

FISHERY OFFICE,  
STORNOWAY, 20th January 1920.

*Barra District.*

Compared with last year, the returns for the district show the large increases of 13,288 cwts. in quantity and £6364 in value, or 83 per cent. and 66 per cent. respectively—exclusive of shell-fish, which shows a very small decrease of £277 in value.

The increase is chiefly in herrings, and may be accounted for by (1) the operations of three steam drifters which worked on this coast and landed during July and August 5060 cwts., valued at £2618, and (2) the increased number of motor boats in the local fleet.

The total decrease of 11 boats in the Means of Capture will not affect the fisheries to any extent. They were old boats which were laid up during the war, and have now become useless. Eight first-class and 4 second-class sailing boats were converted into motor boats. The installations were carried out locally, and comprise 4 26-30 h.p., and 8 13-15 h.p. Kelvin engines, costing £400 and £200 each. Six of the boats are owned by fishermen, but they required a little assistance from the local merchants to purchase the engines. The other 6 are owned by local merchants and hired out to local crews.

The local herring fishing lasts for nine months, and is divided into three seasons—a winter fishing (January to March), a spring fishing (April to May), and a summer fishing (June–September). From October to December the boats go to the Skye lochs or are laid up. The winter fishing in January looked like creating a record, but bad weather kept the boats ashore, just when the shoals had been located. Fourteen motor and 8 sail boats were working between Castlebay and Lochboisdale, and they landed 2046 crans, valued at £3555—an increase of 319 crans, but a decrease of £405 as compared with 1918. In the previous year 2 buying steamers operated from Castlebay, paying 70s to 100s. per cran, while there was none in 1919—hence the decreased value.

The spring fishing opened on 10th May, nine stranger curers being present. Herrings were very scarce and of miserable quality. Prices ran from 10s. to 15s. per cran for curing, and in these circumstances the boats frequently went to Mallaig, where higher prices were obtained for freshing purposes. Up to the 28th June the weather remained cold and stormy, and neither quantity nor quality improved. In the following week similar weather and a blank fishing forced the principal curers to close up their stations and transfer their workers to the East Coast. At the end of July the weather changed, and the shoals of herrings then appeared all along the coast, of which the boats took full advantage. With the news of the fishing, the stranger curers returned and reopened their

stations. For the week ended 9th August, 1520 crans were landed, which is the highest for one week since 1914. The herrings were of the very best quality, and prices averaged about 60s. per cran. This fishing continued for another fortnight, and finished with a total of 4991 crans, of the value of £9579, against 1671 crans and £3329 in 1918. The earnings of the motor boats for the season ranged from £130 to £500, and of sail boats from £150 to £250.

Twenty-five boats went to the Skye Lochs in October, but met with indifferent success. One motor boat grossed £600, but the earnings of the others were much lower, ranging from £32 to £125, against which has to be set a serious loss of gear. In one case a whole fleet of nets was lost, while in others from 10 to 30 nets were lost or damaged.

The cod and ling fishing returns show increases of 427 cwts. and £336 over the previous year. This is accounted for by the boats landing their catches here in the spring and early summer, when prices for fresh fish were very low at Mallaig.

Small-line fishing is prosecuted from all the creeks in the district, and except for a few cwts. of plaice consigned to the markets or sold locally, the catch is kept for home use.

The lobster catch of the Long Island was equal to that of the previous year, but there was a decrease in value. In the Creek of Barra the landings increased fourfold, but the value was only doubled. The returns for the whole district show an increase of 6750 lobsters, but a decrease of £198 in value. This fishing was prosecuted in the summer round the islands about Barra Head, and lobsters were never so numerous or so large within the memory of the men engaged. Owing to the unsuitable steamer service and warm weather, a large proportion of each consignment was dead by the time it reached the market, and the fishermen did not reap the benefit they would have done had a more convenient service been available.

Notwithstanding the very heavy working expenses, fishcurers had an exceptionally profitable year. The total quantity cured was 8573 barrels compared with 2306 in 1918. Very little success was attained during the winter and spring seasons, but the summer season recouped all losses. The whole of the catch was sent to Glasgow for America. Prices for cured herrings ranged from 70s. to 90s. per two half barrels of La. Matjes, and from 60s. to 70s. per barrel of Medium Matjes, giving on the average 76s. per barrel for the season's cure.

The Government guarantee for pickled herrings had no direct effect in this district. The class of herrings taken in this district—"Castlebay Matjes"—is eagerly awaited by the American buyers, who pay high prices for them. Curers were paying from 55s. to 75s. per cran for these herrings during July and August, except for a few days when owing to the heavy landings prices fell to 30s. per cran.

The number of women belonging to the district who were employed in gutting and packing was unusually large. Fifty crews were working during the summer in Castlebay, while thirty-two crews were on the East Coast, their average net earnings being £15 each. Fifty-five went to the English stations where they earned from £60 to £75 per crew for a seven weeks' fishing.

One third-class sail boat was built at Lochmaddy to local order.

No barrels were manufactured in the district.

Fortunately there were no lives lost in connection with the fisheries during the year.

ARTHUR M. M'KENZIE,  
*Fishery Officer.*

FISHERY OFFICE,  
CASTLEBAY, 22nd January 1920.



*Loch Broom District.*

The returns for this district for the year under review show an increase in the total landings, but a large decrease in the total value, as compared with the previous year.

The difference in the quantity of fish caught by lines was trifling; cod-net fishing yielded 2030 cwts. less than in 1918; so that the increase has to be sought for in the catch of herrings.

The shoals which frequented the grounds of Rhu Rhea and Lochs Laxford and Inchard, where such excellent results were obtained during the early winter fishing of the previous year, unfortunately did not again appear, with the result that the catch and value at the end of March were only 923 crans and £1933, compared with 2267 crans and £3649 in 1918. The results of the early summer fishing were also disappointing, only 10 crans being landed, and up to the end of November the catch was still far behind that of the previous year. A shoal of herrings was then reported from Cape Wrath section, and a further report came from Drumbeg (the shoal appeared to be working southwards) that the creek of Glendhu was showing great promise.

About this time herrings were being caught round Islemartin, and hopes were entertained that they would enter Loch Broom where they could be handled more effectually, but these hopes were not fulfilled.

The craft at work in the district accordingly proceeded to Glendhu, where they were supplemented by craft from other districts, and during the last five weeks of the year 17,454 cwts., valued at £4763, were landed in this district, apart from the large supplies caught by drifters and motor boats which marketed their catches at Mallaig, Kyle, and Stornoway. This creek proved a small Bonanza to the boats which fished it, as although the herrings were of poor quality control prices were often realised.

Most of the catch from the local craft was sold either to carriers at from 15s. to 30s. per cran, or to drifters at one half of the price realised at the port of delivery. The earnings of the district skiffs ranged from £70 to £300 for the few weeks, so the earnings of the first-class craft must have been correspondingly large.

Landings at Ullapool were mostly made by boats fishing in the Minch and northern lochs when a passage could not be made to Kyle or Mallaig.

The result of the year's herring operations was 26,702 cwts., valued at £8944—an average price of 22s. 6d. per cran—compared with 19,520 cwts., valued at £9708—an average price of 34s. 10d. per cran—in the previous year. Herrings cured, which are either disposed of in the district or sent coastwise to Glasgow, amounted to 1655 barrels gutted and 181 barrels ungutted.

The annual cod and saithe net fishing conducted at Badachro from February to April was not nearly so successful as in the previous year. Continued bad weather greatly hampered operations with the result that the catch was only 2759 cwts., of the value of £3804, compared with 4789 cwts. and £10,873 in 1918. Unfortunately, the steamer "Cygonie," which carried the catch from Badachro to the railhead at Kyle, was wrecked on the coast of Skye, during a snowstorm towards the end of November.

Lobster fishing was vigorously prosecuted from most of the creeks, and though the number landed exceeded that in 1918, which was a record year, the price obtained was smaller.

The quantity of line fish landed shows a slight increase, but the price per cwt. was only 26s. 3d. compared with 37s. 9d. in the previous year. Most of the fish caught in the smaller creeks is consumed locally.

The Means of Capture altered very slightly.

Damage to fishing boats and gear included the loss of the motor fishing

craft "Clan M'Rae," which was wrecked on the coast of Skye in February; an estimated loss of £200 on lobster creels caused by gales in the month of March; and an estimated loss of £390 caused by damage to herring nets during the month of December, chiefly at Glendhu.

Happily no loss of life was recorded during the year.

The Government guarantee for cured herrings did not come into operation in this district.

This stretch of coast possesses many fine natural harbours and sheltered anchorages, and though it lies at the door of rich fishing banks, the lack of good transport service hinders its development. From Cape Wrath to the South Point of Gairloch the transport of fresh fish to market is dependent in the initial stages of the journey on an inadequate and costly motor service, which in most cases is limited to the mail cars. These cars are not built for fish traffic; consequently the load taken is very small, and if the passengers are numerous, as they frequently are, fish is left to be taken on the following day. Thus a day's market is lost, and the fish grow stale.

When herrings are caught in the lochs an extremely small percentage is landed in the district, and though district fishermen participate in the resultant gains by selling to carriers, they would do so to a much greater extent if the catches were landed at a railhead in the district.

This does not encourage a vigorous prosecution of the fishings by fishermen of the district, so that unless good fish transport is instituted little improvement in the district fisheries need be expected.

DOUGLAS CRUDEN,  
*Fishery Officer.*

FISHERY OFFICE,  
ULLAPOOL, 8th January 1920.

### *Loch Carron and Skye District.*

The total quantity of fish landed in the district during the past year shows an increase over 1918 of 19,783 cwts., but the value decreased by £32,548 owing to the lower prices prevailing for herrings towards the end of the year. Herrings and saithe were the principal kinds responsible for the increase in quantity, but mackerel shows a considerable decrease in quantity and value. Shell-fish returns increased by £2503.

The Means of Capture Returns again show a decrease in the number of boats, but the catching power is not affected as the boats cancelled were mostly all worn-out sailing vessels. Ten motor boats were added to the fleet during the year, and 2 were cancelled, whilst sailing boats show a decrease of 31 as compared with 1918. The motor boats acquired during the year were chiefly of the smaller class for line fishing.

The herring fishing during the first three months of the year was again very successful. The bulk of the catch was landed at Kyle by East Coast vessels fishing in the Minch and Sutherlandshire lochs. Good takes were also landed from the Stornoway grounds. A number of local craft also did well in Lochs Snizort and Dunvegan, where the herrings were sold to carrying vessels which ran them to Kyle or Mallaig. About 20 steam drifters and 35 motor boats from the East Coast made Kyle their landing port during the season. Most of these left for home early in March owing to the fishing falling off, and also to the poor demand consequent upon the import of Norwegian herrings at the kippering ports on the East Coast. The season closed at 31st March with a total of 23,110 crans, valued at £96,301, against 21,096 crans, valued at £117,678, in the previous year.



The average price per cran was considerably less than in 1918, being 83s. 4d. as compared with 111s. 6d. The boats' earnings ranged up to £3500, with an average of about £2000. Local motor boats in the district lochs grossed from £150 to £750, the average being £300. The quality of the herrings at this season was on the whole good.

The local boats resumed herring fishing again in July, and the grounds tried were Loch Snizort and near Applecross. Except for a few good catches obtained during September, operations were not very successful. With the return of the stranger vessels in December, a good fishing was landed at Kyle from Lochs Glendhu and Snizort. The quality was only fair, and prices ranged from 15s. to 98s. per cran.

The quantity of herrings cured shows a slight decrease, the total being only 1915 barrels, the bulk of which was sold locally. Kippering was carried on at Kyle by two firms, and although the number of crans kippered was 192 less than in the previous year, both firms had a profitable year's work. The buyers who despatched herrings in a fresh state from Kyle also had a very good year.

The ground-net fishing is the mainstay of the local craft at Applecross, Kyleakin, and Loch Carron. The season lasts from January to March, and operations are again resumed in November. Saithe was the principal kind obtained, but fair shots of hake and lythe were also landed. The results of this fishing were similar to the previous year's, the average earnings for the 30 motor boats employed being £360.

Practically nothing was done at mackerel fishing during the year, the small quantity landed being taken chiefly by boats prosecuting the herring fishing.

The lobster fishing was carried on very successfully by boats belonging to the west side of Skye. The number of lobsters landed and the value show large increases. The fishermen themselves send most of their lobsters to market.

Line fishing is not prosecuted to any great extent by local fishermen, but several small motor boats fishing in the vicinity of Kyle did fairly well during the winter months. There was an increase in the quantity of line fish landed by motor boats, but a decrease in landings by sail boats.

Boat building was at a standstill during the year, but carpenters were fairly busy repairing boats which were laid up during the war.

No lives were lost in connection with the fisheries of the district, but the damage to boats and gear was greater than in 1918. A motor boat and a local fish carrying steamer were wrecked in Loch Snizort in November.

During the last few years Kyle has become one of the principal centres for the winter herring fishing on the West Coast, and, if it is to cope with the increased fleet of steam drifters now at work, harbour extension and better facilities for landing fish are necessary.

The fishermen belonging to the district are now in good circumstances. There were fewer restrictions during the war as regards fishing than in other districts, and the class of boats owned by the local men being of no service to the Admiralty, fishing operations were carried on with little or no interruption. Difficulty was experienced in manning the boats as the men were called up, but nearly all the motor boats managed to keep going. With the return of the men the boats are now fully manned, and a number of those who took to fishing during the war intend to continue at it. As showing the development that has taken place in the local fleet, it may be stated that the number of motor boats was 29 in 1914 and is now 86. More labour is now available for work in connection with the industry ashore, and on the whole the prospects of the fishing community in this district are good. The winter herring fishing occurs at a time when there is little

doing elsewhere, and, provided the demand for fresh herrings and kippers continues, there is no doubt that the fisheries of the district will develop still further in the future.

GEORGE DOWNIE,  
*Fishery Officer.*

FISHERY OFFICE,  
KYLE, 16th January 1920.

*Fort-William District.*

Compared with the figures for the preceding year, the quantity and value of fish landed in Fort-William district for the year 1919 show decreases of 98,586 cwts. and £40,881. This large decrease in the value of the fisheries may be partly accounted for by the lowering of the maximum control price. The value of shell-fish shows an increase of £1501.

In the Means of Capture Returns a reduction of 20 boats (chiefly of the third class) has to be recorded. A number of old boats have been struck off the register as being unfit for further service. It may be remarked that a number of the younger class of crofter fishermen who have been on service during the war have not returned to their former occupation, and several boats that had been lying ashore since the outbreak of war and had become unseaworthy were consequently not replaced. The motor fleet shows a reduction of one boat.

The winter herring fishing commenced about the first week of January, and was prosecuted at Mallaig and Oban with fairly good results. The fleet operated from Cape Wrath to Stoer Head and from Ushinish Point to Coll Bank and Skerryvore. The Oban boats worked chiefly on the latter grounds and the Mallaig boats on the former. The quality was good up to the middle of February, when spent fish appeared. The fishing during the last week of January and first week of February was exceptionally heavy, so much so that the railway lines became congested with the heavy traffic, and there was some delay in forwarding the catches from the ports of landing.

The fishing closed about the end of March. Mallaig accounted for 92,349 crans, valued at £181,024, and Oban for 11,916 crans, valued at £48,975. The results for the combined ports show a decrease of 34,756 crans and £263,310 compared with the figures for the preceding year. The decrease in quantity was due to the fact that the shoals were more scattered, while the reduction in value may be accounted for by the fact that the control of prices was not in force at the corresponding season in the preceding year, and prices therefore soared as high as £14, 10s. per cran. The fishing was prosecuted by a fleet of 40 steam drifters and 70 motor boats, and the majority of these made substantial earnings.

The gross earnings of the most successful steam drifter may be put down at £4000, and those of the most successful motor boat at £3800, while earnings of from £1000 to £2000 were the rule. With the exception of 404 barrels cured and 2262 crans kippered the whole of the catch was despatched in a fresh state, a considerable quantity being afterwards kippered at Eyemouth, Dunbar, Shields, Hull, Yarmouth, and Lowestoft.

After an interval of about three weeks the early summer fishing was commenced by a few boats at Mallaig and Oban, and by the first week of May a fleet of 90 steam drifters, 90 motor boats, and 6 sailers was at work. The fleet at this season worked chiefly from Skerryvore to Skye, while a few of the Oban boats worked as far as Inishtrahull. The fishing was partial, and while a few boats made moderate earnings ranging, up to £900, the bulk of the



fleet earned little more than sufficient to pay expenses, and a considerable number of boats left for the East Coast fishing about the middle of June. The quality of the herrings was rather poor until about the first week of June, but after that date good quality was invariably the rule. The best fish were obtained off Inishtrahull and Skerryvore. Prices ranged from the maximum controlled price of £6, 6s. to as low as 5s. per cran, and it may be remarked that while the price of fresh herrings was as low as 5s. per cran, the price of kippered herrings was up to 10s. per box. The bulk of the herrings was sent to the English markets sprinkled or iced, but 4152 crans were kippered and 451 barrels of matjes were cured. For the period 1st April to 30th June, Mallaig accounted for 15,111 crans, valued at £54,217, and Oban 15,706 crans, valued at £56,328.

The fishing was carried on by a limited fleet of from 6 to 12 steam drifters and 10 to 20 motor boats until September. Fair results were obtained chiefly on the Coll Bank, and the few boats that remained on the West Coast at this season made good earnings. Thereafter the fishing was practically suspended until November, when a few boats made a commencement at the winter fishing at Mallaig, and by December a fleet of 30 steam drifters and 25 motor boats were engaged. Herrings were found plentiful in Loch Glendhu and also in Loch Snizort and Loch Brittle. Heavy catches were the rule, several vessels grossing up to £600 for one shot, while one boat grossed £1100 for three shots, and the earnings of several boats reached £2500 for this period. The quality was very mixed, but there was a keen demand for the fish, and prices ranged chiefly from 60s. to 85s. per cran.

Great-line fishing was carried on at Mallaig and Oban from January until May. The fleet consisted of steam and motor liners from Aberdeen, Fraserburgh, and Anstruther districts. The line fleet operated chiefly from Cape Wrath to Stoer Head and from Barra Head to Tiree, while a few of the boats working from Oban made trips towards the Mull of Kintyre. Good shots of cod, ling, eels, halibut, skate, and roker were obtained, and liners made gross earnings of from £2800 downwards. The decrease in the catch of line fish compared with the previous year may be accounted for by the fact that a number of Aberdeen liners which fished constantly on the West Coast during the three preceding years left to carry on operations from the home port.

Several small steam trawlers from Aberdeen operated from Mallaig during the spring and autumn with good success, while several Granton trawlers landed their catches at Oban.

Lobster fishing was carried on with good results, and the returns show an increase of 25,698 lobsters and of £1706 in value.

There was no loss of life among the local fishermen.

Unlike the chief Scottish herring fishing centres, which suffered serious loss on account of the war, the ports of Mallaig and Oban were almost immune from restrictions, and had unprecedented success owing to the other ports being practically closed. It can hardly be expected that these ports can maintain the position they reached during the years 1915 to 1919. The industry in this district is chiefly engaged in supplying the home markets, and the outlook for the future may be termed bright. The improvement of transport facilities to the various English centres is a question which deserves serious consideration in order that fresh fish may reach the areas of consumption more rapidly.

JAMES YOUNG,  
*Fishery Officer.*

FISHERY OFFICE,  
OBAN, 17th January 1920,

*Campbeltown District.*

The total landings in this district during the year under review were 70,643 cwt., valued at £53,225, as compared with 89,546 cwt. and £132,478 for the previous year.

The number of boats on the Register at the end of the year was the same as in 1918, but their tonnage showed an increase of 24 tons. Five old boats were struck off the Register as being unseaworthy, and 4 motor boats were added—2 from Ireland, 1 from Greenock, and 1 from Aberdeen—while a boat formerly carried aboard a merchant vessel was fitted with a motor engine and rigged out for fishing.

Owing to the very high prices demanded and the poor results of the fishings, very little new gear was acquired.

About the end of January the majority of the local fishermen commenced operations on the Ayrshire coast, landing their catches chiefly at Stranraer. They remained on this coast until March, and had a very successful season, landing at least 4327 crans, which realised £22,432. Their earnings during this short season were more than a third of their earnings for the year. Three pairs belonging to Campbeltown had earnings ranging from £1200 to £2000. Seven pairs from Carradale had average earnings of about £1000 per pair, while the average for the fleet engaged would be about £750 per pair. The highest catch for this period was one of 1000 baskets, netted by one of the local pairs. They required the assistance of another pair to secure the fish. One of the boats had 500 baskets aboard; this shows the fine carrying capacity of the type of boats used in these districts.

Apart from this short season at the Ayrshire coast, the herring fishing was very disappointing and unremunerative to the fishermen employed. Until late in the year the quality of the herrings was inferior, and as the home markets were receiving plentiful supplies from the East Coast, prices during the summer months were very low. During the month of December shoals of splendid herrings were located in the Sound and Machrie Bay, for which there was a keen demand, but the stormy weather experienced throughout the month seriously interrupted fishing operations and debarred the fishermen from making a much-needed addition to their scanty earnings.

The average earnings of the motor herring fleet are estimated at about £690 per boat. This includes the earnings at Stranraer, where big prices were obtained for all fish landed.

From July to September shoals of good mackerel were located in the sound of Kilbrennan, 941 crans being netted. These sold at an average price of 33s. 11d. per cran.

The only fishcuring in the district was carried out at Campbeltown, where 514 barrels of herrings were cured gutted and 301 crans were kippered. The herrings cured were generally of poor quality, and were all for home markets, and practically all the herrings kippered were disposed of locally.

Fully two-thirds of the herrings caught in the district were sold to carrying steamers in the Sound, and taken by them direct to the railheads for Glasgow market. Nine steamers were engaged in this work during the year.

During the spring 2 East Coast motor boats successfully prosecuted the great line fishing from this port, their gross earnings being £1950 and £750 respectively for the period they were employed.

Line fishing was only carried out locally in a very desultory fashion by a number of the smaller boats, and their landings showed a slight increase as compared with last year.



The fishermen at Gigha were again successful at cod fishing during the spring months, although their landings were less than in 1918.

A number of the fishermen, belonging to the Islay creeks, have not yet resumed fishing, but are employed in shipyards, etc., on the Clyde, or in merchant vessels.

The landings of shell-fish were somewhat similar to those of the previous year. There was a decrease in the number and value of lobsters landed at the Kintyre creeks, but this was balanced by an increase at the creeks in Islay, Jura, and Colonsay.

The present high cost of material and labour has discouraged any of the local fishermen who were intending to have boats built. This phase of the industry was much discussed at meetings held in this district, to consider the Board's proposals for loans to ex-Service fishermen. The general opinion was, that with the present high cost of building and the comparatively poor prospects of the fishing, it was inadvisable to acquire new boats, and up to the present no applications for loans for this purpose have been received. Unless these conditions change in the near future, the fleet in this district is bound to decrease.

The local net factory is at present fully employed, chiefly in the manufacture of drift nets for East Coast and Moray Firth ports, and has orders in hand which will keep its machinery employed for some time.

No lives were lost in connection with the fisheries. Loss of gear was confined to lobster creels, and a number of seine nets were damaged through weight of fish and fouling the bottom in shallow waters.

GEORGE M'GEE,  
*Fishery Officer.*

FISHERY OFFICE,  
CAMPBELTOWN, 27th January 1920.

*Inveraray District.*

The total landings in this district for the year amount to 46,126 cwts., valued at £18,920, as compared with 8820 cwts. and £9627 for the previous year.

These figures would seem to indicate that the fishermen in this district enjoyed more prosperity than in 1918. This is not the case, however, the landings in the district being no criterion of the earnings of the fishermen. In the previous year most of the fishing took place in other districts, and all the fishermen engaged had splendid earnings. During the year under review, although the catch was much heavier, the fishermen had poor earnings, the prices realised for the fish landed being very low.

The Means of Capture Returns show a decrease of 4 boats, but an increase in tonnage of 17 tons. A number of old boats were struck off the Register as being useless for fishing, while 6 boats were added to the district fleet during the year. These were all second-hand boats from other districts, 4 being motor boats and the other 2 sailers, the latter being for use in connection with the lobster and line fishings. Five sail boats had motors installed during the year and the registry of 3 motor boats was cancelled, while a number of the crews had more powerful engines installed in place of the engines already in use.

No new boats were built during the year.

During the first two months of the year, the herring fleet operated in the Kyles of Bute and on the Ayrshire coast. This was the most remunerative period of the year for the fishermen, their gross earnings at this period being estimated at about £22,000, or more than half of their year's earnings.

From the month of March to the beginning of June the herring fishing was slack in the district, and a number of the Loch Fyne crews worked with a fair amount of success at cod-net fishing.

From June until the end of the year shoals of herrings were located in Loch Fyne, and except in the month of August, which was slack, heavy catches were netted. The shoals were said to be the heaviest encountered in Loch Fyne for a long time. Unfortunately the herrings were of very poor quality, and much difficulty was experienced in marketing the fish. The herrings were of the same class as those caught in the Kyles of Bute during the earlier months of the year, but with the advent of the East Coast fishing, increased supplies of herrings were placed on the home markets, and there was little demand for the inferior fish caught in the local waters.

The principal market of the local fishermen is, of course, the buying steamers which carry the fish straight from the grounds to the railheads for Glasgow market, and during the year these steamers often left the fishing grounds early with a limited supply. The result of this was that the crews who had not been able to dispose of their catches before the steamers left the grounds had to make for Rothesay, Fairlie, and other Ayrshire ports. On arriving at these ports the fishermen had on several occasions to send their catches to market themselves, as no buyers could be found to handle the fish. This procedure seldom paid the fishermen, and in a number of cases the fish so despatched failed to realise sufficient to cover the expenses of transit.

The quality remained poor throughout the season, and low prices were experienced until the end of the East Anglian season, when an additional number of buyers came to Rothesay for supplies for the English markets.

Transport facilities, apart from the buying steamers, are very limited in these districts, and unsuitable for "freshing," but if a better class of fish were being landed, there is no doubt that the buying steamers would be able to cope with practically the whole catch.

A fleet of 68 motor boats was engaged at the herring fishing during the year, and their average net earnings are estimated at about £470 per boat, which means a very insufficient wage for the fishermen employed.

During the year 811 barrels of herrings were cured gutted at Tarbert and Ardrishaig for home markets, and 46 crans were kippered and disposed of locally.

Mackerel were more plentiful than in 1918, but the prices realised were lower, the average price for the year for this class of fish being 37s. 3d. per cran, as compared with 58s. 11d. per cran in 1918.

Only a few crews tried line fishing during the period when herring fishing was slack, and the results were similar to those of the preceding year.

Lobster fishing was confined to the creeks of Luing and Crinan, and the results show a gratifying increase as compared with 1918.

No lives were lost in connection with the fisheries during the year. The damage to gear was confined chiefly to seine nets. The large shoals encountered in the Kyles and in Loch Fyne often proved too much for the nets, and a burst net with a few baskets of meshed herrings was sometimes the only result of "ringing" a heavy shoal.

There was no abnormal loss of or damage to gear in connection with the lobster fisheries.

GEORGE M'GEE,  
*Fishery Officer.*

FISHERY OFFICE,  
CAMPBELTOWN, 27th January 1920.



*Rothsay District.*

The aggregate results of the fisheries of Rothsay district for the year under review show an increase of 78,669 cwts. in quantity, and of £33,898 in value on the returns for 1918. This notable increase was attributable to the improvement in the herring fishing.

The number of sailing boats belonging to the district showed an increase of 1 first class, a decrease of 1 second class, and a decrease of 4 third class boats, from the figures for the previous year.

Eight boats were added to the motor fleet during the course of the year; 3 were withdrawn from the fishing, and 1 was transferred to Tarbert. Three of the additional 8 boats were previously employed in fishing; 1 at Stranraer, and the other 2 as sailing boats in this district. Of the remaining 5, 3 were formerly used for pleasure, whilst 2 were new boats.

The herring fishing was remarkably successful throughout the first and last two months of the year. The landings were heaviest in the month of January, when 12,708 crans were recorded. In the beginning of November, as was the case in the preceding year, a large shoal of herrings was located in the Kyles of Bute. Operation in these waters, owing to their sheltered nature, were carried on under all conditions of weather, and some very heavy hauls were secured. The quality, however, was far from satisfactory, with the result that the prices realised were on the average very poor. For the year the average price worked out at 41s. 6d. per cran, as against 56s. in 1918.

The total quantity and value of herrings landed for the year were 31,297 crans and £64,981, as compared with 8968 crans and £25,154 in 1918.

The quantity of mackerel landed showed an increase of 97 cwts. on the previous year, and a decrease in value of £1128, the average price being 11s. 11d. per cwt., as compared with 22s. 6d. per cwt. in 1918. As in the case of herrings, England and Glasgow were the chief markets to which mackerel were consigned.

Apart from herrings and mackerel, cod, including codling, and saithe were the principal kinds of fish taken. The total landings of white fish under the various headings amounted to 6338 cwts., of a value of £9674, an increase of 411 cwts., but a decrease of £4801 on the returns for the previous year.

Each creek contributed its quota to the landings, but the principal places were Rothsay, Kyles of Bute, Dunoon, and Loch Long. The greater part of the catch was consigned to the Glasgow market, the remainder being sold locally.

Cod and codlings averaged 40s. 6d. per cwt., saithe 18s. 2d., eels 27s. 1d., flounders and plaice 80s. 4d., as compared with 67s. 9d., 34s., 59s., and 120s. per cwt. respectively in 1918.

The total value of shell-fish shows a decrease of £157 from the preceding year. The lobster fishing was disappointing, there being a decrease in number of 1494. There was also a general shrinkage in the quantity of mussels and unclassified shell-fish landed.

The year's operations were unfortunately marred by the loss of one life. The unfortunate fisherman fell overboard, whilst his boat was proceeding, in heavy weather, to the fishing grounds. His body was not recovered.

The damage sustained by boats and gear was considerably less than in 1918.

Four fishing boats were built within the limits of the district, one less than in the previous year.

JOHN LAWSON,  
*Fishery Officer.*

FISHERY OFFICE,  
GLASGOW, 12th January 1920.

*Greenock District.*

Both as regards quantity and value the returns of fish (excluding shell-fish) landed in this district during 1919 show a marked decrease from the figures for the preceding year. In quantity the decrease was 32 per cent. and in value 61 per cent. This falling off was largely attributable to trawling operations which, so far as this district was concerned, were conducted on a much smaller scale than was the case in the previous year. There was also a considerable drop in the value of herrings, but this was more than counterbalanced by the landings by steam liners.

The Means of Capture Returns also show a downward tendency. One steam trawler was lost while on Admiralty service, and 7 others were transferred to English ports. Five motor boats with engines of from 6 to 22 h.p. were added to the fishing register. One of these was a new boat, 2 were bought from other districts, and 2 were previously used for pleasure. Against this, 9 were struck off the Register—3 being transferred to other districts, and 6 as being no longer used for fishing. There was a decrease of 8 in the number of sailing boats belonging to the district.

During the year 1918 considerable quantities of fish were landed by steam trawlers on Admiralty service in the Clyde, but, after these vessels were withdrawn, no landings were derived from that source.

Most of the trawl and steam-line caught fish credited to the district in 1919 was landed at Glasgow during the latter part of the year. The difficulty in getting fish transported from the usual centres during the railway strike had, no doubt, a deal to do with those vessels making Glasgow their port of call, as they were thus enabled to dispose of their catches on the spot.

The quantity of herrings recorded in the returns was very similar to that of the preceding year, but there was a decrease in value to the extent of £4337. Comparatively few herrings were caught in local waters, and the bulk of the catch was brought in by boats engaged in other Clyde districts. With the exception of an occasional shot, the herrings were of very mixed quality—small predominating.

For the most part the catch was sent from the ports of landing to Glasgow and English markets in a fresh state, the average price to the fishermen working out at 35s. 4d. per cran, as compared with 58s. in the preceding year and 79s. in 1917.

The catch and value of mackerel fell off by 347 cwts. and £803. As in the case of herrings, these were all railed in a fresh state to Glasgow and other markets, the average price being 12s. 4d. per cwt. as against 23s. in 1918.

In addition to the landings by fishing boats, large quantities of herrings and mackerel from other districts were landed by trading and herring-carrying steamers at Gourock, Wemyss Bay, Fairlie, and Ardrossan for despatch to the different markets.

The net and line fishing for white fish by motor and sail boats in this district was of no great importance and a good proportion of the catch was retailed in the localities where the fish were landed. The total catch for the year was 1231 cwts., valued at £2668, being a decrease of 264 cwts. and £1020 from the figures for 1918. Cod and codlings averaged 61s. 8d. per cwt.; saithe, 11s. 6d.; eels, 40s.; and flounders and plaice, 57s. 6d., as against, 55s. 9d., 28s. 3d., 44s., and 71s. 4d. per cwt. respectively in 1918.

The returns of shell-fish for 1918 were comparatively light, and it is satisfactory to note that there was an improvement in the landings of mussels and unclassified shell-fish during the year under review. The



number of lobsters caught was also slightly greater, but the value was less by £16.

More herrings were cured gutted than in the previous year, but the quality of those caught in the Clyde did not permit of this branch of the industry being systematically carried on. There was also a slight increase in the quantity of herrings kippered by local curers.

In addition to those bought locally, fair quantities of cod, ling, etc., imported in a wet salted state, were cured dried in the district.

With increased shipping facilities, the quantities of cured herrings, cod-fish, etc., exported were considerably greater than during the past few years.

America, Canada, and Ireland were the countries to which cured herrings were sent, and Spain and Portugal, Ireland, and South America received most of the cured cod-fish.

Considerable quantities of practically all kinds of fish were regularly received at Glasgow market and sold for distribution throughout the city and surrounding neighbourhood, the total number of packages which passed through the market during the year being reckoned to be fully 400,000 more than in 1918. A certain amount of inconvenience was experienced in bringing the fish to market during the railway strike at the end of September and early October, but, fortunately, the strike was of short duration, and the difficulties were overcome by utilising motor transport.

Boatbuilding was practically at a standstill, as most of the yards in the district were fully employed otherwise.

One motor boat for Ballantrae district was completed and launched from one of the smaller yards.

Comparatively little loss of or damage to fishing gear was sustained by local crews.

With the return of men from military and naval service most of the firms engaged in the fishing industry have been able to make up their staffs of workers for present-day requirements.

WM. NISBET,  
*Fishery Officer.*

FISHERY OFFICE,  
GLASGOW, 28th January 1920.

*Ballantrae District.*

During the year 1919 the work of reconstruction, and the resettlement of the large number of fishermen who were on war service in their peacetime vocation has been fairly successfully accomplished in this district. Practically all the men who were on service have now returned to their pre-war occupation, and have been readily absorbed in the craft awaiting their arrival at the several creeks. To effect this a few of the war-time fishermen had to give place and return to their former employment, but, in some of the more important creeks, notably at Annan and Dunure, the fleets were increased sufficiently to provide berths for every man returning.

Perhaps the principal feature of the year was the decided fall in the average value of herrings, due to the poor quality of the fish landed subsequent to the Stranraer fishing, and the control of prices, which was not in operation in the early months of 1918. The average value works out at 78s. 6d. per cran, against 135s. 4d. for the previous year.

The Means of Capture Returns do not show much alteration as regards the number of boats and extent of gear, although the fleets at some of

the creeks were materially improved by the addition of new craft in place of older vessels, and this notwithstanding the high cost of building. Further, a number of the motor-propelled craft were during the year equipped with engines of greater power, mostly of the Kelvin type, 26 b.h.p., in lieu of the 15-20 b.h.p. previously installed. These engines cost £351 exclusive of fitting, against £125 for the engine discarded. This improvement in the power and condition of the boats, along with the increased cost of all fishing material, has greatly increased the value shown in these returns.

Although more boats were employed during the year under review, the total results show a considerable falling off in quantity and value, the principal kinds affected being herrings, mackerel, and plaice. Local boats operated to a greater extent than usual in other districts during the year.

The year opened with the usual herring fishing in Loch Ryan, which was less productive than in 1918, and with the Fish (Prices) Order, 1918, in operation, prices were kept at a lower level. The fleet operating was not so large, a number of Loch Fyne crews electing to stay nearer home where fair success was being obtained, while a number of district crews participated to only a very limited extent in this fishing. The landings were extremely irregular, a few crews securing heavy hauls, while a number of others barely earned enough to pay expenses. Subsequently, Ballantrae Bank was exploited when weather permitted, with only moderate results, the aggregate taken from this area being approximately 3703 crans.

During January, a Maidens pair, after landing 230 baskets at Ayr, from Rothesay district, were making for home when they saw signs of herrings in Culzean Bay. They shot their net and secured over 600 baskets, handing over a residue in the net to another crew. They returned to Ayr, and the herrings being of fine quality, control price was realised for the shot. This fortunate pair grossed over £1200 for their night's work; this proving to be the outstanding catch of the year. Quality during this period was generally good, and prices ranged from 18s. to 31s. 6d. per basket.

After an interval of some six weeks the herring fishing was again renewed by most of the Ayrshire crews when, as usual, a considerable portion of the Clyde area was exploited with drift and seine nets. Very moderate results were obtained during the summer and autumn months. In the early autumn the Girvan and Dunure fleets operated in Kilbrannan Sound and Loch Fyne, and later on to the end of the year in the Kyles of Bute, where most of them were still working when the year closed.

Great-line fishing was carried on from Stranraer by two large East Coast motor boats, with fair results. Their gross earnings were approximately £1600 and £1200 respectively. District crews generally confine great-line fishing to some six weeks or so between the Ballantrae Bank herring fishing and the start of the summer fishing. During this period some good results were obtained by local boats, helped by the high prices ruling, but, as usual at this time of the year, bait supplies were difficult to obtain.

Simultaneously the Dunure fleet engaged in small-line fishing with excellent results, shots ranging up to 20 boxes of whittings per day. The landings from this source are probably the best ever recorded for this creek.

Flounder fishing in the district was not so productive as during the previous year—operations in this direction being less persistent than usual in some of the sections.

The shell-fisheries of the district call for no special comment. Oyster



production from the Loch Ryan beds was slightly less, while mussels, lobsters, crabs, and other kinds show an improvement, the value over all being some £2000 in excess of 1918.

Trawling operations at Annan were less successful, a considerable reduction having taken place in the quantity of flounders landed. Shrimps show an increase, but the aggregate value was less than in the preceding year.

During the last two months of the year some three small shots from steam trawlers were landed at Stranraer. These are expected to be the forerunner of many others—a considerable development of the trawling industry being projected at this port.

The average value of all kinds, excluding shell-fish, works out at 31s. 5d., against 43s. 9d. per cwt. in 1918.

A considerable expansion in kippering took place during the year, the quantity treated in this way being 432 crans, against 145 during the previous year.

Only 16 barrels were cured gutted, this branch of the industry being almost entirely in abeyance.

Considerable enterprise is being displayed in developing the fishing industry in this district, as is shown by the following instances. Two of the local fish merchants at Girvan added to their accommodation for kippering, while an East Coast merchant bought a property and erected thereon a kippering house and yard capable of smoking about 10 crans. The cost of this acquisition and alteration was about £300.

At Stranraer a local firm acquired a site and property which they reconstructed into a kippering establishment to hang over 30 crans kippers. This latter scheme involved an expenditure of some £1200, and the plant was in operation during the last months of the year.

Late in the year a company was formed to develop Stranraer as a trawling port. This company has already acquired business premises in the town, and is negotiating the purchase of steam trawlers to form the nucleus of a fleet which they intend to operate from the port. The landings from this source recorded in the returns indicate the beginning of this Company's activities. Included in their scheme is the construction of a dock with the landing, coaling, and transport facilities necessary to the successful conduct of this branch of the industry. Should the enterprise prosper as it deserves, the near future should witness important developments at Stranraer.

JOHN GLEN,

*Fishery Officer.*

FISHERY OFFICE,  
GIRVAN, 16th January 1920.

## APPENDIX III.

## SALMON FISHERIES.

## MR. CALDERWOOD'S REPORT.

FISHERY BOARD FOR SCOTLAND,  
*April 1920.*

I have the honour to submit my annual report on the Salmon Fisheries of Scotland, being for the year 1919.

It is now possible to use as a standard of comparison a series of five quinquennial averages, prepared from the information voluntarily supplied by the railways and steamship companies as to the weight of salmon carried to market annually. The alarming fall of the curve, which is here shown, as representing those 25 years, is sufficiently evident. The last average figure is 1651 tons, the lowest ever recorded. The fluctuations from year to year are shown in the larger chart of curves which accompanies the Board's Report (p. xx.). The curve of averages, while being an epitome of the larger curves, brings out in clear view the really serious condition of this important branch of the fisheries.

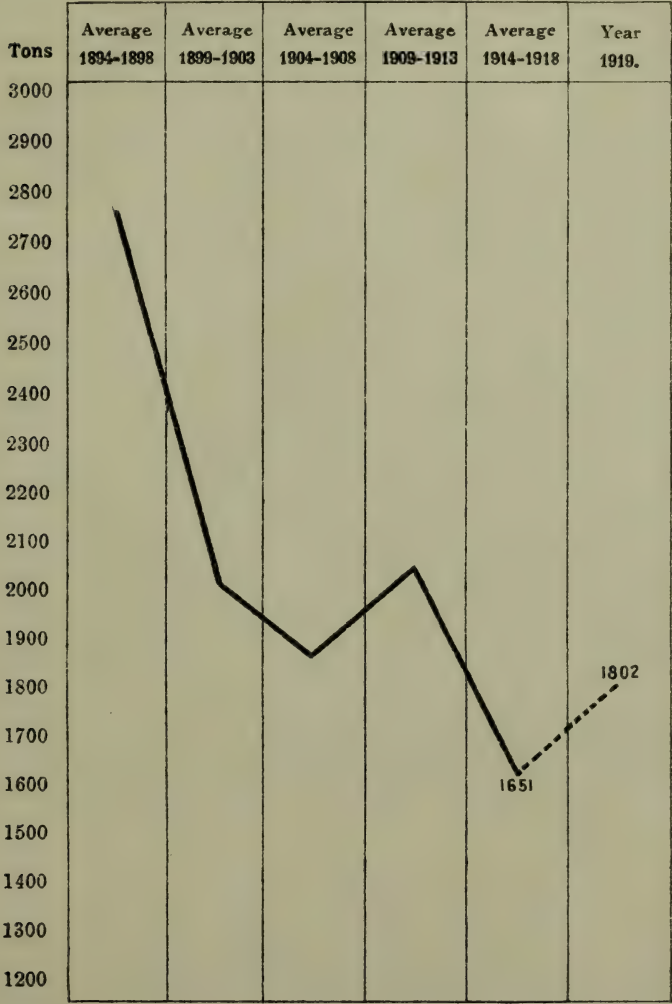
It happens that both grilse and sea trout were more numerous last season, and that the catch for the market, with a weight of 1802 tons, therefore shows a rise from the depressing figure already referred to, but there is no reason to suppose that one can build much hope for the future on this rise, since no changes of any moment have supervened in the well-defined causes which make for the decline of the salmon. Good years are not so good as formerly, and bad years are worse. I would respectfully urge that the grave situation revealed be given the serious attention it deserves.

It is true that in the case of certain districts an improvement is taking place at the present time, chiefly through the reduction of netting in narrow waters and estuaries in cases where pollution is not much in evidence. In other cases, however, we have serious and growing pollutions, abstraction of water, and the presence of natural or artificial obstructions. The clear issue is, that in the country as a whole, the breeding of salmon and sea trout in our rivers is insufficient to meet the drain upon the stock, and that our commercial fishings are inevitably suffering.

The process of decay is so slow that the position is not realised by those who may not have reflected upon the former abundance of salmon. Prices have improved, so that a smaller catch may still yield good financial results—at time of writing, the price of salmon in Aberdeen market has reached 5s. 10d. per lb.—but the supply of a valuable fish food to the market is far short of what it might be. From recent reports concerning the important salmon fisheries of the Fraser River in British Columbia, where the supply was at one time regarded as inexhaustible, it is clear that even there those in charge of the fisheries have become seriously



# Approximate Weight of Salmon carried by Scottish Railways and Steamships annually since 1894.







alarmed, and are proposing to take drastic action in closing fisheries so that the stock may once more have an opportunity to reach its former high level. The amount of fishing in this instance has been enormous, as the stock was vast. From one to two million cases of canned salmon were packed in British Columbia and Washington State. Each fourth year brought "the big run." 1917 was a fourth year, and the pack was only 448,000 cases. In recent lean years the pack has fallen as low as 116,000 cases, and every one is agreed that the great Fraser River is over-fished. Many large hatcheries in the district have for years been handling ten to twelve million ova apiece, but this has been powerless to stop the decline. Now the authorities cannot get a sufficient quantity of fish in some of the tributaries to stock some of their hatcheries. This has been an example of a rapid decline. The drain upon even this immense stock has been too great, and it is fairly safe to prophesy that resuscitation will be slow, uphill work. I venture to mention the Fraser River as an illustration on a large scale of what has for long years been slowly going on in Scotland. The difference is only one of degree. When one is asked why the long years of decline in Scotland have been allowed to continue, there is no answer except to explain that for over fifty years we have had no salmon fishery legislation. The causes of decline are well known, and the remedies are not unduly difficult except in the combating of pollution. Those who have interests which run counter to those of the fisheries are already proclaiming that the latter are comparatively unimportant, or that they are largely private property and can therefore be sacrificed without loss to the nation. But netting rights and sporting rights are indissolubly connected. The one rises or falls with the other, and those who care only for the commercial results should not forget that the fish are all bred for them in the sporting waters, and that the protection of the districts is entirely borne by those who own the rights of fishing.

With regard to netting, it appears that the policy recommended by the Board, by which the sea should be regarded as the chief place for the net and the river for the rod and for breeding the fish, need in no way be departed from. Comparatively few rivers in Scotland are now over-netted. In these the saying is still applicable, that if we want to catch more fish we must fish less, but in others it is still necessary to secure conditions by which Nature will be able to produce a greater stock, otherwise some curtailment of even the sea netting will be necessary.

Pollutions, abstraction of water, and obstructions (under the two last headings it is now necessary to include considerations arising out of the creation of electric power) have to be set against the continuance of the present state of our salmon fisheries.

#### VALUE OF SALMON FISHERIES.

May I glance for a moment at the value of the salmon fisheries, so far as these can be approximately estimated. The annual value in rentals, on a pre-war footing (1914) is not overstated as £150,000, if a careful examination of all available information is made, and the equivalent of the marketed fish, taking the last season's total, and the average price at 3s. per lb., was the sum of £606,000. I venture to think, therefore, that when the argument that they are comparatively unimportant, is used against doing anything to support the salmon fisheries, it is based on a lack of knowledge.

#### POLLUTIONS.

I dealt, in my last annual report, on the difficult subject of Pollution (p. 81, *et seq.*), setting forth the classification of trade wastes adopted by

the Sewage Disposal Commission, and the standards of purification which appear to be necessary. I need only say here, therefore, that this, the most difficult factor in the case, has been the subject of very full investigation, and that the facts are before us. We are not faced, as yet, by the almost overwhelming state of pollution which appears to exist in England, but the evil is insidiously spreading, and the longer resuscitation of the salmon fisheries is delayed, the more difficult does the problem become.

District Fishery Boards find it impossible to tackle this question, though all are agreed as to the need.

In the Tweed district a useful conference on the subject was lately convened. Shortly before the war, Galashiels established an extensive and satisfactory system of purifying both its sewage and its trade waste, and, through the auspices of the Tweed Commission, representatives of all other towns on the Tweed and its tributaries had an opportunity of first inspecting the complete process of purification at Galashiels, and then of considering together how far the other towns might find it possible to follow this lead. A resolution of a general nature was unanimously passed, and it is hoped that good may result. While those in other polluted districts might wisely follow the example of the Tweed, it seems clear, however, that legislative machinery applicable to the whole of Scotland is necessary before the subject can be comprehensively dealt with.

#### WATER POWER.

Abstraction of water for the purpose of developing electric power also bulks largely at the present time as a factor which those having the general superintendence of the salmon fisheries will have to consider. Schemes of great magnitude appear to be in preparation, and while it is undoubtedly desirable that nothing should be done to hinder the great work of securing power from water which at present is allowed to run to waste, it is essential that, at the inception of the schemes, and before final plans are adjusted, provision should be made for the conserving of the salmon interests as far as possible.

#### NITH "FLEETING" CASE.

It may be within the recollection of the Board that in the thirty-fourth Report I made special mention of the manner in which, while netting the river Nith below the Dumfries Caul, the net was allowed to hang after being run across the river, and that the shot was not rowed out till after the net had been allowed to drift down the whole length of the long pool below the suspension bridge.

This hanging of the net across the river, or "fleeting," as the practice has been called locally, is an operation which appeared to me to be clearly contrary to the House of Lords decisions in the cases of *Hay v. The Magistrates of Perth*, and *The Duke of Atholl v. The Glovers Incorporation of Perth*, and in the Annual Report above referred to (p. 98) I quoted the opinions of the Lord Chancellor and Lords Macnaughton, Davey, and Brampton. The Lord Chancellor referred expressly to the opinion of Lord Westbury in the earlier case, which has now come to be regarded as the standard and test by which net and coble fishing may be judged as to the legality of method—"taking a grasp of a portion of the river during such time only as is required for the boat to row round the shot." The Nith District Fishery Board took the matter into serious consideration, and eventually two proprietors, viz., R. A. Oswald of Auchincruive, and Captain Henry Keswick of Cowhill Tower, took a case to the Sheriff Court in Dumfries. The Sheriff-Substitute decided that the pursuers had



failed to prove their complaint that any departure from the ordinary and accustomed mode of net and coble fishing had been followed by James M'Call and others, the defenders, and at a later date the Sheriff-Principal adhered. The case was then taken to the Court of Session, when proof was led before the Lord Justice Clerk (Lord Scott Dickson), Lord Salvesen, Lord Guthrie, and Lord Dundas. The result was a unanimous decision in favour of the pursuers, their lordships finding that the method employed is not fair net and coble fishing, and is illegal in respect that during the period when the paying out of the net is prevented, and the coble kept close to the Dumfries side, the net takes a grasp of the whole width of the river during a longer time than is required for the coble to row round the net, and is a contrivance which prevents the free passage of fish up the river. Declarator and interdict in terms of the initial writ as amended were therefore granted.

The decision is one of considerable importance, and should establish without ambiguity the difference between legal and illegal methods of net and coble fishing in rivers and estuaries of Scotland. Their lordships found, in fact, that the coble was rowed straight across to the opposite bank, the net paying itself out during the passage of the boat; that the man in the coble then put his foot on the net so as to prevent further paying out, and rowed the coble down stream, keeping the bow close to the bank, while the man with the tow rope walking on the side from which the shot had started drew his end of the net correspondingly down stream. When the coble reached a point nearly opposite the hauling place, the man in it released the net, rowed back to the side of the river from which he had originally started, and the net was hauled ashore.

In the past when a long and uniform stretch of water was netted, this method of embracing more water than could be grasped by an uninterrupted paying out of the net and rowing round of the coble has been far from uncommon. In such a stretch of water where two or more shots could have been rowed, the easier process of running the net across at the top and then stopping it or "stenting" it for such time as enabled the barrier of net to be drifted down the whole of the stretch and the shot only rowed out at the bottom, has readily, and perhaps naturally, presented itself. Any fish in the long stretch of water could thus be swept down to the tail of the pool, and only there encircled.

In future, District Fishery Boards will be empowered to enforce the rowing out of each shot "during such time only as is required for the boat to row round the net."

At a time when fish are running, the decision now arrived at will make a considerable difference. A barrier of netting stretched across and slowly drifting down a long pool, is calculated to turn any fish, whereas two or more separate shots gives a certain interval, and allows more room for the fish to escape the net. There is here a nearer approach to the desirable conditions of netting, in the general interests of the fisheries, without in any way acting against the satisfactory and perfectly legitimate netting of the water. A proportion of every run of fish should be allowed to pass the netted zone in any river, and in places where the netting is carried on immediately below, or a short distance below, an obstruction to the ascent of fish in the form of a weir, the regulation of the method of netting has to be more carefully guarded. The decision will, I hope, do away with the open abuse I have occasionally witnessed, when the man rowing the shot has not only stopped at the opposite bank, but has got out of his coble to engage in a convenient conversation with a friend, the gentle force of the low river admitting of the net remaining for a very considerable time as a complete barrier across the pool.

## IMPROVEMENT IN DEVERON ROD CATCH.

It will be within the memory of the Board that in 1906 the proprietors of the Deveron District combined to remove all the nets in the District—after the cruives had been taken off—and that, having secured the possession of all the nets, they allowed the coast nets to go back, while keeping the river nets and estuary nets off. The result has been that since 1907 the river has not been netted. From the first I asked that a confidential return be sent to me so that an indication might be secured of the improvement which I anticipated would supervene in ten years or so. As the arrangement was that the reports should be confidential, I cannot give particulars which would show the catch, although I believe if the various proprietors were asked, they would not object in any way to the totals at least being given. I prefer, however, to give the result in the form of a graph, from which it will be seen that on the eleventh year after the start, the first big increase became noticeable. I may add that the nature of the return received shows spring fish separately from later fish, and that a substantial increase in the relative numbers of spring fish has been noticeable for years. In the case of the present spring of 1920 reports state that the run of fish is again low. I anticipate, however, that with the increase in the breeding stock which has now taken place, this condition will be merely temporary.

## EEL FISHERY EXPERIMENTS.

The object of these experiments was to ascertain whether or not it might be profitable to catch eels in rivers in Scotland, by the method of coghill net fishing practised in Ireland. It was known that eels are distributed all over Scotland, and that they exist in apparently large numbers in certain localities. It had been ascertained also that good runs of elvers occur frequently in certain rivers. Eel fishing for the market is carried on in very few places, but from the long period during which eels have been fished in the few places, it appeared that in all probability profitable results might be obtained if trials were made on a larger scale in larger streams.

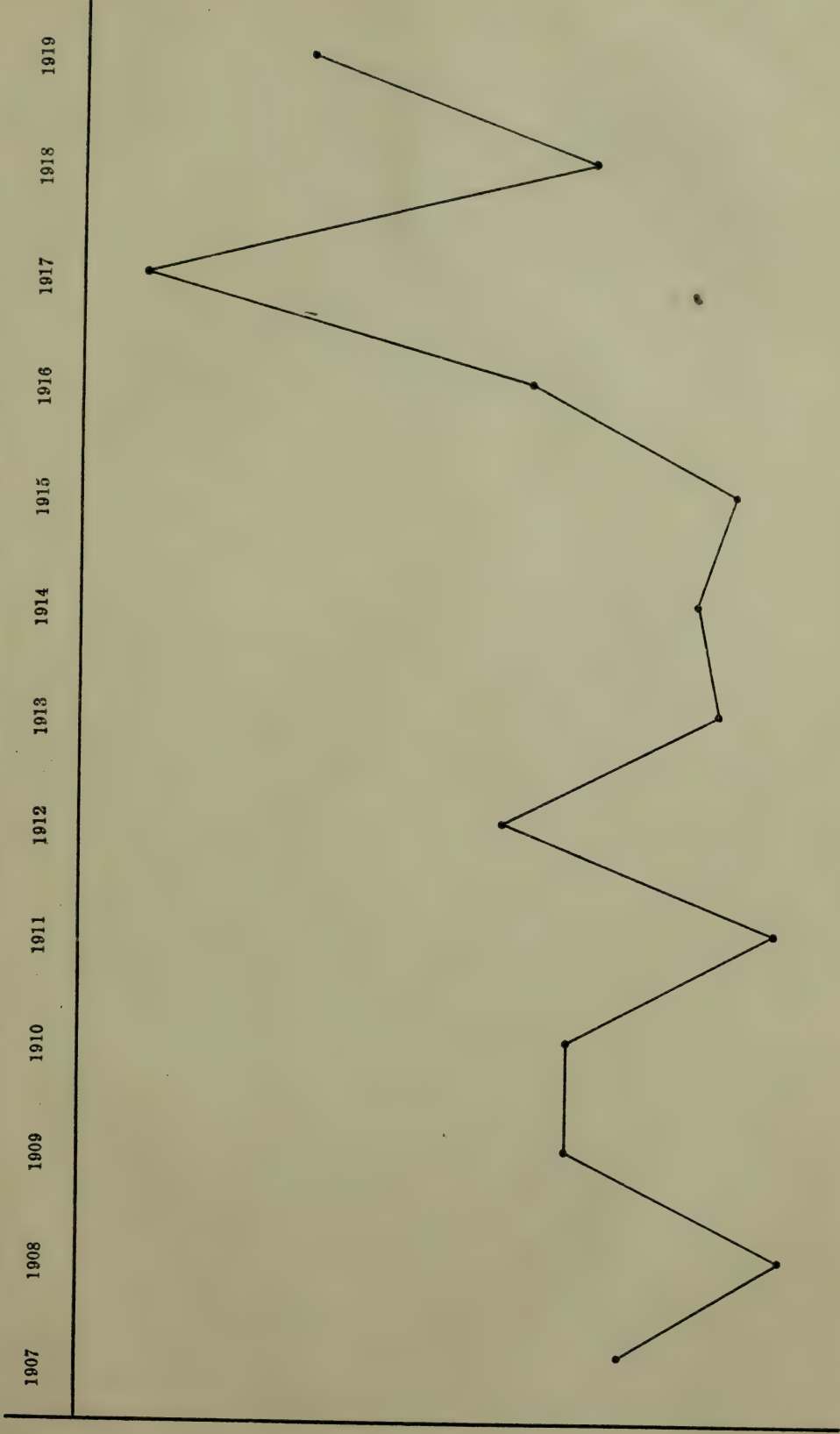
Experimental stations were therefore established in seven localities, viz., in the Thurso as an example of a river flowing north into the Pentland Firth; the Tay as the largest river on the east coast; the Oich which flows into Loch Ness; the Ewe, in West Ross-shire, flowing out of Loch Maree; the Morar, also on the west coast, flowing out of the deepest loch in Scotland; the Bladnoch, a southern river flowing into the Solway in Wigtown Bay; and in the Cree estuary in the same locality, where experience of salmon fishers showed that large numbers of eels were at times present.

At each station poles were erected in a line in the river at a carefully chosen site, and from between these the nets were set so as to catch the eels on their migration down the river to the sea.

In the practice of fishing, very great difficulties were experienced through the great fluctuations in level of our Scottish rivers. The rainfall, especially over the high lands, being heavy, and the hills frequently very steep, floods rise with such rapidity as to create an almost insurmountable difficulty in fishing eel nets. Time after time, the nets had to be taken out on account of the imminent danger to the temporary weirs, and in several instances the nets were washed away when the floods rose so rapidly that the nets could not be got out in time. It was clear from the rather poor catches we obtained that eels did not run in any numbers during the periods when it was possible to fish the nets, and the presumption



DEVIRON ROD CATCH SINCE REMOVAL OF NETS IN 1907.







remains that the eels descended during the floods when the nets had to be removed. Even had more permanent structures been erected, and in the case of the Bladnoch we had made use of a disused mill dam or weir in which to construct two eel eyes, it appeared that fishing could not have been carried on with any great success. The Bladnoch experiment indeed came to an end after the disappearance, in a high flood, of the nets, the live box, and the gangways. Similarly, in the case of the Thurso, an early and severe frost resulted in ice in such quantities that when the first floods came after thaw the poles were forced out of the river bed and the nets much destroyed. In the estuary of the river Cree a fair amount of success was obtained during the summer months, when the nets caught yellow eels which apparently had not been up the river at all, but in the main it appeared from the experiments that greater success, in Scotland, is likely to be secured by fishing comparatively small streams where the force of water is not great, and where the volume can be more readily controlled.

## APPENDIX IV.

INDEX TO PART II. FOR THE YEARS 1908-1919  
INCLUSIVE—28TH TO 37TH ANNUAL REPORTS.

## AILORT DISTRICT.

Dam Dyke at outlet of Loch Eilt. 35th Annual Report II., App. N, p. 97. (1916.)

## AILORT.

Scheme raising the level of Loch Eilt. Work impeded by floods. 33rd Annual Report II., App. N, p. 257. (1914.)

## AILORT RIVER.

Completion of Dam Dyke. 34th Annual Report II. p. 101. (1915.)

## ANNAN RIVER.

Discharge from Gretna Works Report. 36th Annual Report II., App. N, p. 91. (1917.)

## ANNAN RIVER.

Netting at Eastern end of Solway and Gretna discharge into rivers. New Proposals. 36th Annual Report II., App. N, p. 91. (1917.)

## AWE DISTRICT.

Iron Dyke at Lusragan Burn. 35th Annual Report II., App. N, p. 96. (1916.)

## AYR RIVER.

Weir Report. Proposal for improvements. 30th Annual Report II., p. 242. (1911.)

## BAA RIVER.

Report on Water System by W. L. Calderwood. 29th Annual Report II., App. N, p. 243. (1910.)

## CALDERWOOD, W. L.

Coop Nets in Wigtown Bay. Report. 29th Annual Report II., App. N, p. 241. (1910.)

## CALDERWOOD, W. L.

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## CALDERWOOD, W. L.

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## CALDERWOOD, W. L.

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## CALDERWOOD, W. L.

Note on Crossing of Salmon Stock by Transporting Ripe Milt. 28th Annual Report II., App. V., p. 61. (1909.)

## CALDERWOOD, W. L.

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- CALDERWOOD, W. L.  
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- CALDERWOOD, W. L.  
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- CALDERWOOD, W. L.  
Salmon Passes Report. 28th Annual Report II., App. I, p. 9. (1909.)
- CALDERWOOD, W. L.  
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- CALDERWOOD, W. L.  
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- CALDERWOOD, W. L.  
Infrequency of Spawning amongst Salmon. 28th Annual Report II., p. 5. (1909.)
- CALDERWOOD, W. L.  
Results of Salmon Marking (with chart). Sixth Paper. 27th Annual Report II., App. II, p. 35. (1908.)
- CALDERWOOD, W. L.  
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- CALDERWOOD, W. L.  
Decline of Tweed Grilse. Its Significance. 27th Annual Report II., pp. 2, 4. (1908.)
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**COOP NETS.**

Wigtown Bay. Report by W. L. Calderwood. 29th Annual Report II., App. N, p. 241. (1910.)

**CREETOWN STAKE NETS.**

Situation, Size and Position. 32nd Annual Report II., App. N, p. 251. (1913.)

**CROE RIVER.**

Netting. Ratigan and Loch Duich Netting. 34th Annual Report II., p. 101. (1915.)

**CROSSING OF SALMON STOCKS.**

Note on Crossing of, by transporting Ripe Milt, by W. L. Calderwood. 28th Annual Report II., App. V., p. 61. (1909.)

**DEE (SOLWAY).**

Action in Court of Session in view of Works erected at Tongland on the Lower River. 36th Annual Report II., App. N, p. 93. (1917.)

**DEE (SOLWAY).**

Tongland Water-Power Scheme. 35th Annual Report II., Appendix N, p. 97. (1906.)

**DON RIVER.**

Report. Improvements, Dykes, by W. L. Calderwood. 31st Annual Report II., p. 241. (1912.)

**DOON RIVER.**

Withdrawal of Water. Operations on various Dam Dykes on Lower Reaches of Doon (with chart). 33rd Annual Report II., App. N, p. 254. (1914.)

**DOON RIVER.**

Alterations. Report. Moving River Mouth. 30th Annual Report II., p. 243. (1911.)

**DOON RIVER.**

Sources of Pollution. Scheme for Improvements. 33rd Annual Report II., App. N, p. 257. (1914.)

**DROCHES.**

Alterations: Mr. Calderwood's Report. 29th Annual Report II., App. N, p. 242. (1910.)

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Run of Fish from Loch Maree. Catch. 34th Annual Report II., App. N, p. 101. (1915.)

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Report on Pollutions. 32nd Annual Report II., App. N, p. 247. (1913.)

**FORTH.**

Proposals of the Glasgow Water Order, 1914. 33rd Annual Report II., App. N, p. 253. (1914.)

**FORTH (ALLAN WATER).**

Another Dam Dyke erected, with Pass which has no proper gap, and does not conform to the requisites of the Bye-Law of the Salmon Fisheries (Scotland) Act, 1868. Improvements suggested have been utterly disregarded, also with the bringing of the Pass into harmony with the Regulations. 34th Annual Report II., p. 102. (1915.)

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**GIRVAN RIVER.**

Loss of large numbers of fish, including eels, owing to Pollution of river by Sheep Dip. 33rd Annual Report II., App. II., p. 258. (1914.)

**GRILSE.**

Decline of Tweed. Mr. Calderwood's Report. 27th Annual Report II., pp. 2, 4. (1908.)

**HATCHEEY.**

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Dam and Sluices erected at outlet from Loch. 31st Annual Report II., p. 242. (1912.)

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**LOCHY DISTRICT.**

Netting at head of Loch Eil. 35th Annual Report II., App. N, p. 96. (1916.)

**LOSSIE RIVER.**

District Fishery Board dissolved. 33rd Annual Report II., App. N, p. 258. (1914.)

**LUSRAGEN BURN.**

Iron Dyke. Awe District. 35th Annual Report II., App. N, p. 96. (1916.)

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- SALMON FISHERIES.**  
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- SALMON FISHERIES.**  
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- SALMON FISHERIES.**  
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- SALMON NETTING.**  
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- SALMON PASS.**  
The single intake from a loch. Report by W. L. Calderwood. 28th Annual Report II., App. I, p. 15. (1909.)
- SALMON PASS.**  
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That have, by H. W. Johnston. 28th Annual Report II., App. II., p. 24. (1909.)

**SALMON SPAWNING.**

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**SALMON STOCKS.**

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**SMOLTS.**

And Parr, by H. W. Johnston. 28th Annual Report, App. II., p. 23. (1909.)

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**SPAWNING.**

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WHITE FISH NETS.

Of the Solway. W. L. Calderwood. 28th Annual Report II., App. III., p. 25. (1909.)



## APPENDIX V.

## ANNUAL CLOSE TIMES APPLICABLE TO THE SALMON RIVERS IN SCOTLAND.

*N.B.*—Observe that, in the following List, the days fixing the commencement and termination of the Annual Close Time for Net-fishing and for Rod-fishing, respectively, are in all cases inclusive, as in the case of the Add, the first river in the List.

Name of River.	Annual Close Time for Net-fishing.	Annual Close Time for Rod-fishing.
Add . . . . .	From Sept. 1 to Feb. 15, both days inclusive.	From Nov. 1 to Feb. 15, both days inclusive.
Aline . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Alness . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Annan . . . . .	From Sept. 10 to Feb. 24.	From Nov. 16 to Feb. 24.
Applecross . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Arnisdale ( <i>Loch Hourn</i> ) . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Awe . . . . .	From Aug. 27 to Feb. 10.	From Oct. 16 to Feb. 10.
Aylort ( <i>Kinloch</i> ) . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Ayr . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Baa and Goladoir . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Badachro and Kerry ( <i>Gairloch</i> ) . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Balgay and Shieldag . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Beaully . . . . .	From Aug. 27 to Feb. 10.	From Oct. 16 to Feb. 10.
Berriedale . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Bervie . . . . .	From Sept. 10 to Feb. 24.	From Nov. 1 to Feb. 24.
Bladenoch . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Broom . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Brora . . . . .	From Aug. 27 to Feb. 10.	From Oct. 1 to Jan. 10.
Carradale ( <i>in Cantyre</i> ) . . . . .	From Sept. 10 to Feb. 24.	From Nov. 1 to Feb. 24.
Carron . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Clayburn, Finnisbay, Aven- nangeren, Strathgravat, North Lacastile, Scalla- dale, and Mawrig ( <i>East Harris</i> ) . . . . .	From Sept. 10 to Feb. 24.	From Nov. 1 to Feb. 24.
Clyde and Leven . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Conon . . . . .	From Aug. 27 to Feb. 10.	From Oct. 16 to Jan. 25.
Cree . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Creed or Stornoway, and Laxay ( <i>Island of Lewis</i> ) . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Creran ( <i>Loch Creran</i> ) . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Croe and Shiel ( <i>Loch Duich</i> ) . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Dee ( <i>Aberdeenshire</i> ) . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Dee ( <i>Kirkcudbrightshire</i> ) . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Deveron . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Don . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Doon . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Drummachloy or Glenmore ( <i>Isle of Bute</i> ) . . . . .	From Sept. 1 to Feb. 15.	From Oct. 16 to Feb. 15.
Dunbeath . . . . .	From Aug. 27 to Feb. 10.	From Oct. 16 to Feb. 10.
Earn . . . . .	From Aug. 21 to Feb. 4.	From Nov. 1 to Jan. 31.
Eckaig . . . . .	From Sept. 1 to Feb. 15.	From Nov. 1 to Feb. 15.
Esk, North . . . . .	From Sept. 1 to Feb. 15.	From Nov. 1 to Feb. 15.
Esk, South . . . . .	From Sept. 1 to Feb. 15.	From Nov. 1 to Feb. 15.
Ewe . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.

Name of River.	Annual Close Time for Net-fishing.	Annual Close Time for Rod-fishing.
Fincastle, Meaveg, Ballanachist, South Lacastile, Borve, and Obb ( <i>West Harris</i> ) . . . . .	From Sept. 10 to Feb. 24.	From Nov. 1 to Feb. 24.
Findhorn . . . . .	From Aug. 27 to Feb. 10.	From Oct. 11 to Feb. 10.
Fleet ( <i>Sutherlandshire</i> ) . . . . .	From Sept. 10 to Feb. 24.	From Nov. 1 to Feb. 24.
Fleet ( <i>Kirkcudbrightshire</i> ) . . . . .	From Sept. 10 to Feb. 24.	From Nov. 1 to Feb. 24.
Forss . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 24.
Forth . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Jan. 31.
Fyne, Shira, and Aray ( <i>Loch Fyne</i> ) . . . . .	From Sept. 1 to Feb. 15.	From Nov. 1 to Feb. 15.
Girvan . . . . .	From Sept. 10 to Feb. 24.	From Nov. 1 to Feb. 24.
Glenelg . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Gour . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Greiss, Laxdale, or Thunga. . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Grudie or Dionard . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Gruinard and Little Gruinard . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Halladale, Strathy, Naver, and BORGIE . . . . .	From Aug. 27 to Feb. 10.	From Oct. 1 to Jan. 11.
Helmsdale . . . . .	From Aug. 27 to Feb. 10.	From Oct. 1 to Jan. 10.
Hope and Polla or Strathbeg . . . . .	From Aug. 27 to Feb. 10.	From Oct. 1 to Jan. 11.
Howmore . . . . .	From Sept. 10 to Feb. 24.	From Nov. 1 to Feb. 24.
Inchard . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Inner ( <i>in Jura</i> ) . . . . .	From Sept. 10 to Feb. 24.	From Nov. 1 to Feb. 24.
Inver . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Iorsa ( <i>in Arran</i> ) . . . . .	From Sept. 10 to Feb. 24.	From Nov. 1 to Feb. 24.
Irvine and Garnock . . . . .	From Sept. 10 to Feb. 24.	From Nov. 1 to Feb. 24.
Kannaird . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Kilchoan or Inverie ( <i>Loch Nevis</i> ) . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Kinloch ( <i>Kyle of Tongue</i> ) . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Kirkaig . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Kishorn . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Kyle of Sutherland . . . . .	From Aug. 27 to Feb. 10.	From Oct. 1 to Jan. 10.
Laggan and Sorn ( <i>Island of Islay</i> ) . . . . .	From Sept. 10 to Feb. 24.	From Nov. 1 to Feb. 24.
Laxford . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Leven . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Little Loch Broom . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Lochy . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Loch Duich . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Loch Luig . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Loch Roag . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Lossie . . . . .	From Aug. 27 to Feb. 10.	From Oct. 16 to Feb. 10.
Luce . . . . .	From Sept. 10 to Feb. 24.	From Nov. 1 to Feb. 24.
Lussa ( <i>Island of Mull</i> ) . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Moidart . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Morar . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Mullanageren, Horasary, and Lochnaciste ( <i>North Uist</i> ) . . . . .	From Sept. 10 to Feb. 24.	From Nov. 1 to Feb. 24.
Nairn . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Naver and BORGIE, <i>see</i> Halladale. . . . .		
Nell, Feochan, and Euchar. . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Ness . . . . .	From Aug. 27 to Feb. 10.	From Oct. 16 to Feb. 1.
Nith . . . . .	From Sept. 10 to Feb. 24.	From Dec. 1 to Feb. 24.
Orkney Islands ( <i>River from Loch of Stenness, &amp;c.</i> ) . . . . .	From Sept. 10 to Feb. 24.	From Nov. 1 to Feb. 24.
Ormsary ( <i>Loch Killisport</i> ), Loch Head, and Stornoway ( <i>Mull of Cantyre</i> ) . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Pennygowan or Glenforsa, and Aros . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.



Name of River.	Annual Close Time for Net-fishing.	Annual Close Time for Rod-fishing.
Resort . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Ruel . . . .	From Sept. 1 to Feb. 15.	From Nov. 1 to Feb. 15.
Sanda . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Scaddle . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Shetland Islands ( <i>River of Sandwater, &amp;c.</i> ) . . . .	From Sept. 10 to Feb. 24.	From Nov. 16 to Jan. 31.
Shiel ( <i>Loch Shiel</i> ) . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Sligachan, Broadford, and Portree ( <i>Isle of Skye</i> ) . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Snizort, Orley, Oze, and Drynoch ( <i>Isle of Skye</i> ) . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Spey . . . .	From Aug. 27 to Feb. 10.	From Oct. 16 to Feb. 10.
Stinchar . . . .	From Sept. 10 to Feb. 24.	From Nov. 15 to Feb. 24.
Tay (except Earn) . . . .	From Aug. 21 to Feb. 4.	From Oct. 16 to Jan. 14.
Thurso . . . .	From Aug. 27 to Feb. 10.	From Oct. 6 to Jan. 10.
Torridon, Balgay, and Shieldag . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Tweed . . . .	From Sept. 15 to Feb. 14.	From Dec. 1 to Jan. 31.
Ugie . . . .	From Sept. 10 to Feb. 24.	From Nov. 16 to Feb. 24.
Ullapool ( <i>Loch Broom</i> ) . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Urr . . . .	From Sept. 10 to Feb. 24.	From Nov. 30 to Feb. 24.
Wick . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Ythan . . . .	From Sept. 10 to Feb. 24.	From Nov. 1 to Feb. 10.

## APPENDIX VI.

## LIST OF CHAIRMEN AND CLERKS OF SALMON FISHERY DISTRICT BOARDS IN SCOTLAND.

DISTRICT.	Name and Address of Chairman.	Name and Address of Clerk.
Alness . .	Andrew Mackenzie, Esq., Dalmore House, Alness.	William J. Duncan, Solicitor, Dingwall.
Annan . .	John T. McGlasson, Esq., Newbie Villa, Annan.	J. C. R. Macdonald, 84 Irish Street, Dumfries.
Ayr . .	Richard A. Oswald, Esq., of Auchincruive, Ayr.	C. Young, W.S., County Buildings, Ayr.
Balgay . .	C. R. Manners, Esq., C.E., 12 Lombard Street, Inverness.	Duncan Shaw, W.S., 15 High Street, Inverness.
Bervie . .	David Scott Porteous, Esq., of Lauriston, as Mandatory of the Commissioners of Woods and Forests.	W. C. Walls, Solicitor, Montrose.
Broom . .	W. Ewing-Gilmour, Esq., of Inverlael, per A. W. G. Aitken, Esq., S.S.C., Edinburgh.	W. R. T. Middleton, Solicitor, Dingwall.
Carron (W. Ross)	Baron von Schroder of Attadale.	Arthur H. Duncan, Solicitor, Dingwall.
Conon . .	John Little Mounsey, Esq., W.S., 5 Thistle Street, Edinburgh, Commissioner for Col. J. A. F. H. Stewart Mackenzie of Seaforth.	W. R. T. Middleton, Solicitor, Dingwall.
Cree . .	The Earl of Galloway, Cumloden, Newton-Stewart.	A. B. Matthews, Solicitor, Newton-Stewart.
Dee (Aberdeen)	The Lord Provost of Aberdeen.	Alex. Duffus, Advocate, Aberdeen.
Dee (Solway) .	Thomas Cross, Esq., Mandatory for Sir Charles Hope Dunbar, Bart., of St. Mary's Isle.	John Gibson, Solicitor, Kirkcubright.
Deveron . .	Wm. MacIntosh, Esq., Fife Lodge, Banff.	James Morrison, Solicitor, Banff.
Don . .	George Davidson, Esq., Wellwood, Aberdeen.	Alex. Duffus, Advocate, Aberdeen.
Doon . .	Marquis of Ailsa, Culzean Castle, Maybole.	C. Young, W.S., County Buildings, Ayr.
Dunbeath . .	Mandatory of Commissioners of Woods, etc., London.	D. W. Georgeson, Solicitor, Wick.
Esk (North) .	W. Douglas Johnston, Esq. (as Mandatory for Proprietors of Morphy Fishings), Montrose.	J. R. Findlay, Solicitor, Montrose.
Esk (South) .	J. Noel Johnston, Esq., Montrose.	Alex. Middleton, Solicitor, Montrose.
Feochan . .	The Marquis of Breadalbane, Taymouth Castle, Aberfeldy.	David Stewart, Solicitor, Oban.
Findhorn . .	Sir R. C. Munro Ferguson, Bart., of Novar, per J. J. Meiklejohn, Esq., factor.	C. Grant Mackenzie, Solicitor, Forres.
Forth . .	Mandatory of Commissioners of Woods, etc., London.	Henry Robb, 11 Barnton Street, Stirling.
Girvan . .	John Campbell Kennedy, Esq., of Dunure.	T. Gerald Tait, Solicitor, Girvan.
Gruinard and Little Gruinard	Alfred N. G. Aitken, Esq., S.S.C., Edinburgh, Factor and Commissioner for Hugh Mackenzie, Esq., of Dundonnell.	W. R. T. Middleton, Solicitor, Dingwall.
Kyle of Sutherland	Sir Charles Lockhart Ross, Bart., of Balnagowan.	John McCrone, Solicitor, Dornoch.
Little Broom .	Alfred N. G. Aitken, Esq., S.S.C., Edinburgh, Factor and Commissioner for Hugh Mackenzie, Esq., of Dundonnell.	W. R. T. Middleton, Solicitor, Dingwall.



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# APPENDIX V.

## ANNUAL CLOSE TIMES APPLICABLE TO THE SALMON RIVERS IN SCOTLAND.

N.B.—Observe that, in the following List, the days fixing the commencement and termination of the Annual Close Time for Net-fishing and for Rod-fishing, respectively, are in all cases inclusive, as in the case of the Add, the first river in the List.

Name of River.	Annual Close Time for Net-fishing.	Annual Close Time for Rod-fishing.
Add . . . . .	From Sept. 1 to Feb. 15, both days inclusive.	From Nov. 1 to Feb. 15, both days inclusive.
Aline . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Alness . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Annan . . . . .	From Sept. 10 to Feb. 24.	From Nov. 16 to Feb. 24.
Applecross . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Arnisdale ( <i>Loch Hourn</i> ) . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Awe . . . . .	From Aug. 27 to Feb. 10.	From Oct. 16 to Feb. 10.
Aylort ( <i>Kinloch</i> ) . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Ayr . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Baa and Goladoir . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Badachro and Kerry ( <i>Gairloch</i> ) . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Balgay and Shieldag . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Beaully . . . . .	From Aug. 27 to Feb. 10.	From Oct. 16 to Feb. 10.
Berriedale . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Bervie . . . . .	From Sept. 10 to Feb. 24.	From Nov. 1 to Feb. 24.
Bladenoch . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Broom . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Brora . . . . .	From Aug. 27 to Feb. 10.	From Oct. 1 to Jan. 10.
Carrisdale ( <i>in Cantyre</i> ) . . . . .	From Sept. 10 to Feb. 24.	From Nov. 1 to Feb. 24.
Carron . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Clayburn, Finnisbay, Avenangeren, Strathgravat, North Lacastile, Sealladale, and Mawrig ( <i>East Harris</i> ) . . . . .	From Sept. 10 to Feb. 24.	From Nov. 1 to Feb. 24.
Clyde and Leven . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Conon . . . . .	From Aug. 27 to Feb. 10.	From Oct. 16 to Jan. 25.
Cree . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Creed or Stornoway, and Laxay ( <i>Island of Lewis</i> ) . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Creran ( <i>Loch Creran</i> ) . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Croe and Shiel ( <i>Loch Duich</i> ) . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Dee ( <i>Aberdeenshire</i> ) . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Dee ( <i>Kirkcudbrightshire</i> ) . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Deveron . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Don . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Doon . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Drummachloy or Glenmore ( <i>Isle of Bute</i> ) . . . . .	From Sept. 1 to Feb. 15.	From Oct. 16 to Feb. 15.
Dunbeath . . . . .	From Aug. 27 to Feb. 10.	From Oct. 16 to Feb. 10.
Earn . . . . .	From Aug. 21 to Feb. 4.	From Nov. 1 to Jan. 31.
Eckaig . . . . .	From Sept. 1 to Feb. 15.	From Nov. 1 to Feb. 15.
Esk, North . . . . .	From Sept. 1 to Feb. 15.	From Nov. 1 to Feb. 15.
Esk, South . . . . .	From Sept. 1 to Feb. 15.	From Nov. 1 to Feb. 15.
Ewe . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.

Name of River.	Annual Close Time for Net-fishing.	Annual Close Time for Rod-fishing.
Fincastle, Meaveg, Ballanachist, South Lacastile, Borve, and Obb ( <i>West Harris</i> ) . . . . .	From Sept. 10 to Feb. 24.	From Nov. 1 to Feb. 24.
Findhorn . . . . .	From Aug. 27 to Feb. 10.	From Oct. 11 to Feb. 10.
Fleet ( <i>Sutherlandshire</i> ) . . . . .	From Sept. 10 to Feb. 24.	From Nov. 1 to Feb. 24.
Fleet ( <i>Kirkcudbrightshire</i> ) . . . . .	From Sept. 10 to Feb. 24.	From Nov. 1 to Feb. 24.
Fors . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 24.
Forth . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Jan. 31.
Fyne, Shira, and Aray ( <i>Loch Fyne</i> ) . . . . .	From Sept. 1 to Feb. 15.	From Nov. 1 to Feb. 15.
Girvan . . . . .	From Sept. 10 to Feb. 24.	From Nov. 1 to Feb. 24.
Glenelg . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Gour . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Greiss, Laxdale, or Thunga. . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Grudie or Dionard . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Gruinard and Little Gruinard . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Halladale, Strathy, Naver, and Borgie . . . . .	From Aug. 27 to Feb. 10.	From Oct. 1 to Jan. 11.
Helmsdale . . . . .	From Aug. 27 to Feb. 10.	From Oct. 1 to Jan. 10.
Hope and Polla or Strathbeg . . . . .	From Aug. 27 to Feb. 10.	From Oct. 1 to Jan. 11.
Howmore . . . . .	From Sept. 10 to Feb. 24.	From Nov. 1 to Feb. 24.
Inchard . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Inner ( <i>in Jura</i> ) . . . . .	From Sept. 10 to Feb. 24.	From Nov. 1 to Feb. 24.
Inver . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Iorsa ( <i>in Arran</i> ) . . . . .	From Sept. 10 to Feb. 24.	From Nov. 1 to Feb. 24.
Irvine and Garnock . . . . .	From Sept. 10 to Feb. 24.	From Nov. 1 to Feb. 24.
Kannaird . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Kilchoan or Inverie ( <i>Loch Nevis</i> ) . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Kinloch ( <i>Kyle of Tongue</i> ) . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Kirkaig . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Kishorn . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Kyle of Sutherland . . . . .	From Aug. 27 to Feb. 10.	From Oct. 1 to Jan. 10.
Laggan and Sorn ( <i>Island of Islay</i> ) . . . . .	From Sept. 10 to Feb. 24.	From Nov. 1 to Feb. 24.
Laxford . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Leven . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Little Loch Broom . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Lochy . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Loch Duich . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Loch Luig . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Loch Roag . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Lossie . . . . .	From Aug. 27 to Feb. 10.	From Oct. 16 to Feb. 10.
Luce . . . . .	From Sept. 10 to Feb. 24.	From Nov. 1 to Feb. 24.
Lussa ( <i>Island of Mull</i> ) . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Moidart . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Morar . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Mullanageren, Horasary, and Lochnaciste ( <i>North Uist</i> ) . . . . .	From Sept. 10 to Feb. 24.	From Nov. 1 to Feb. 24.
Nairn . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Naver and Borgie, <i>see</i> Halladale. . . . .		
Nell, Feochan, and Euchar. . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Ness . . . . .	From Aug. 27 to Feb. 10.	From Oct. 16 to Feb. 1.
Nith . . . . .	From Sept. 10 to Feb. 24.	From Dec. 1 to Feb. 24.
Orkney Islands ( <i>River from Loch of Stenness, &amp;c.</i> ) . . . . .	From Sept. 10 to Feb. 24.	From Nov. 1 to Feb. 24.
Ormsary ( <i>Loch Killisport</i> ), Loch Head, and Stornoway ( <i>Mull of Cantyre</i> ) . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Pennygowan or Glenforsa, and Aros . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.



Name of River.	Annual Close Time for Net-fishing.	Annual Close Time for Rod-fishing.
Resort . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Ruel . . . . .	From Sept. 1 to Feb. 15.	From Nov. 1 to Feb. 15.
Sanda . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Scaddle . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Shetland Islands ( <i>River of Sandwater, &amp;c.</i> ) . . . .	From Sept. 10 to Feb. 24.	From Nov. 16 to Jan. 31.
Shiel ( <i>Loch Shiel</i> ) . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Sligachan, Broadford, and Portree ( <i>Isle of Skye</i> ) . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Snizort, Orley, Oze, and Drynoch ( <i>Isle of Skye</i> ) . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Spey . . . . .	From Aug. 27 to Feb. 10.	From Oct. 16 to Feb. 10.
Stinchar . . . . .	From Sept. 10 to Feb. 24.	From Nov. 15 to Feb. 24.
Tay (except Earn) . . . .	From Aug. 21 to Feb. 4.	From Oct. 16 to Jan. 14.
Thurso . . . . .	From Aug. 27 to Feb. 10.	From Oct. 6 to Jan. 10.
Torridon, Balgay, and Shieldag . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Tweed . . . . .	From Sept. 15 to Feb. 14.	From Dec. 1 to Jan. 31.
Ugie . . . . .	From Sept. 10 to Feb. 24.	From Nov. 16 to Feb. 24.
Ullapool ( <i>Loch Broom</i> ) . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Urr . . . . .	From Sept. 10 to Feb. 24.	From Nov. 30 to Feb. 24.
Wick . . . . .	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Ythan . . . . .	From Sept. 10 to Feb. 24.	From Nov. 1 to Feb. 10.

## APPENDIX VI.

LIST OF CHAIRMEN AND CLERKS OF SALMON FISHERY  
DISTRICT BOARDS IN SCOTLAND.

DISTRICT.	Name and Address of Chairman.	Name and Address of Clerk.
Alness . .	Andrew Mackenzie, Esq., Dalmore House, Alness.	William J. Duncan, Solicitor, Dingwall.
Annan . .	John T. M'Glasson, Esq., Newbie Villa, Annan.	J. C. R. Macdonald, 84 Irish Street, Dumfries.
Ayr . .	Richard A. Oswald, Esq., of Auchincruive, Ayr.	C. Young, W.S., County Buildings, Ayr.
Balgay . .	C. R. Manners, Esq., C.E., 12 Lombard Street, Inverness.	Duncan Shaw, W.S., 15 High Street, Inverness.
Bervie . .	David Scott Porteous, Esq., of Lauriston, as Mandatory of the Commissioners of Woods and Forests.	W. C. Walls, Solicitor, Montrose.
Broom . .	W. Ewing-Gilmour, Esq., of Inverlael, per A. W. G. Aitken, Esq., S.S.C., Edinburgh.	W. R. T. Middleton, Solicitor, Dingwall.
Carron (W. Ross)	Baron von Schroder of Attadale.	Arthur H. Duncan, Solicitor, Dingwall.
Conon . .	John Little Mounsey, Esq., W.S., 5 Thistle Street, Edinburgh, Commissioner for Col. J. A. F. H. Stewart Mackenzie of Seaforth.	W. R. T. Middleton, Solicitor, Dingwall.
Cree . .	The Earl of Galloway, Cumloden, Newton-Stewart.	A. B. Matthews, Solicitor, Newton-Stewart.
Dee (Aberdeen)	The Lord Provost of Aberdeen.	Alex. Duffus, Advocate, Aberdeen.
Dee (Solway) .	Thomas Cross, Esq., Mandatory for Sir Charles Hope Dunbar, Bart., of St. Mary's Isle.	John Gibson, Solicitor, Kirkeudbright.
Deveron . .	Wm. MacIntosh, Esq., Fife Lodge, Banff.	James Morrison, Solicitor, Banff.
Don . .	George Davidson, Esq., Wellwood, Aberdeen.	Alex. Duffus, Advocate, Aberdeen.
Doon . .	Marquis of Ailsa, Culzean Castle, Maybole.	C. Young, W.S., County Buildings, Ayr.
Dunbeath . .	Mandatory of Commissioners of Woods, etc., London.	D. W. Georgeson, Solicitor, Wick.
Esk (North) .	W. Douglas Johnston, Esq. (as Mandatory for Proprietors of Morphy Fishings), Montrose.	J. R. Findlay, Solicitor, Montrose.
Esk (South) .	J. Noel Johnston, Esq., Montrose.	Alex. Middleton, Solicitor, Montrose.
Feachan . .	The Marquis of Breadalbane, Taymouth Castle, Aberfeldy.	David Stewart, Solicitor, Oban.
Findhorn . .	Sir R. C. Munro Ferguson, Bart., of Novar, per J. J. Meiklejohn, Esq., factor.	C. Grant Mackenzie, Solicitor, Forres.
Forth . .	Mandatory of Commissioners of Woods, etc., London.	Henry Robb, 11 Barnton Street, Stirling.
Girvan . .	John Campbell Kennedy, Esq., of Dunure.	T. Gerald Tait, Solicitor, Girvan.
Gruinard and Little Gruinard	Alfred N. G. Aitken, Esq., S.S.C., Edinburgh, Factor and Commissioner for Hugh Mackenzie, Esq., of Dundonnell.	W. R. T. Middleton, Solicitor, Dingwall.
Kyle of Sutherland	Sir Charles Lockhart Ross, Bart., of Balnagowan.	John M'Crone, Solicitor, Dornoch.
Little Broom .	Alfred N. G. Aitken, Esq., S.S.C., Edinburgh, Factor and Commissioner for Hugh Mackenzie, Esq., of Dundonnell.	W. R. T. Middleton, Solicitor, Dingwall.



APPENDIX VI.—(continued)—LIST OF CHAIRMEN AND CLERKS OF SALMON FISHERY DISTRICT BOARDS IN SCOTLAND.

DISTRICT.	Name and Address of Chairman.	Name and Address of Clerk.
Lochy . . .	Factor and Mandatory for the Trustees of the late Lord Abinger, Inverlochy Castle, Fort-William.	Duncan Maclachlan, Solicitor, Fort-William.
Nairn . . .	Brodie of Brodie, Brodie Castle, Forres.	H. T. Donaldson, Solicitor, Nairn.
Ness . . .	Major E. C. Ellice of Glengarry, Fort-Augustus.	Anderson & Shaw, Solicitors, Inverness.
Nith . . .	The Provost of Dumfries.	J. E. Blacklock, Solicitor, Irish Street, Dumfries.
Sligachan, Broadford, & Portree (Skye)	G. M. Fraser, Esq., Solicitor, Portree, Mandatory for Lord Macdonald.	A. D. Mackinnon, Solicitor, Portree.
Snizort, Orley, Oze, and Drynock (Skye)	G. M. Fraser, Esq., Solicitor, Portree, Mandatory for Lord Macdonald.	A. D. Mackinnon, Solicitor, Portree.
Spey . . .	The Duke of Richmond and Gordon, Gordon Castle, Fochabers, per George Muirhead, Esq., Commissioner.	T. R. Mackenzie and A. F. Macdonald, Solicitors, Elgin.
Stinchar . . .	The Earl of Stair, Lochinch, Wigtownshire.	Stair M'Harrie, Rephad, Stranraer.
Tay . . .	P. D. Malloch, Esq., Mandatory for the Tay Salmon Fisheries Co., Perth.	Condie, Mackenzie, & Co., Solicitors, Perth.
Thurso . . .	Peter Keith, Esq., Mandatory for Sir Archibald H. M. Sinclair, Bart., of Ulbster.	David Keith-Murray, Solicitor, Thurso.
Torridon . . .	C. R. Manners, Esq., C.E., 12 Lombard Street, Inverness.	Duncan Shaw, W.S., 15 High Street, Inverness.
Tweed (Police Committee of the Commissioners)	The Duke of Roxburgh, K.T., Floors Castle, Kelso.	David W. B. Tait, W.S., Kelso.
Ugie . . .	Lieut-Col. Ferguson, of Pitfour, Mintlaw.	David Troup, Solicitor, Peterhead.
Wick . . .	Mrs. Duff Dunbar, of Hempriggs, Ackergill Tower, Wick.	D. W. Georgeson, Solicitor, Wick.
Ythan . . .	Earl of Errol, Slains Castle, Aberdeen-shire.	D. M. A. Chalmers, Advocate, Aberdeen.

NOTE.—In addition to the districts specified above, the Duke of Sutherland is joint proprietor of the Brora with Mr. Peter Haig-Thomas, and is joint proprietor, along with Mr. F. W. Wignall and Dr. T. H. Ward, of the Fleet. Mr. V. W. Macandrew is proprietor of the Halladale, and Messrs. Birtwistle and Midwood of the Naver; Mr. Barnett is proprietor of the Borge. The Duke of Westminster is sole proprietor of the Laxford, and Mr. Geo. Morrison of the Inchard. Sir Wm. Coats Cross and Captain Alex. Cross and Mr. Alex. Morrison are proprietors of the Kinloch. Mr. J. W. Stewart is sole proprietor in the Inver and Kirkaig districts (in charge of his factor, Mr. Murdo Kerr, Assynt Estate Office, Lochinver); Mr. W. E. Gilmour of Rosehall is sole proprietor of the rivers Dionard, Polla, Strathy, and Armadale, and part owner, with Mr. J. D. Milburn, of the River Hope district (Mr. A. Gunn, Overseer, Durness, by Lairg, acts for Mr. Gilmour); Lord Lovat has practically sole rights of fishing in the river Beaully (under the charge of his factor, Mr. J. T. Garrioch, Estate Office, Beaully); and the Countess of Cromarty is sole proprietrix of the district of the river Kannaird (under the charge of her factor, Mr. Alex. Taylor, Cromarty Estate Office, Kildary).





# STATISTICAL TABLES.

## PART I.

### TABLE A.

#### MEANS OF CAPTURE.

	PAGE
I.—Return, for the year 1919, showing the Number and Value of the Boats and Vessels engaged in the Scottish Fishing Industry; the Number of Persons employed thereon; and the Value of Fishing Gear . . . . .	4
II.—Return showing Particulars regarding the State of the Fisheries at each Fishing Creek or Station on the Scottish Coasts . . . . .	<i>Suspended</i>
III.—Return showing the largest Number of Boats, Decked and Undecked, <i>irrespective</i> of the places to which they belong, employed in fishing for Herrings, as well as the Number of Persons engaged in that Industry, in each District in Scotland at <i>one time</i> . . . . .	<i>Suspended</i>

### TABLE B.

#### TOTAL QUANTITY OF FISH LANDED.

I.—Statement of the Total Quantity and Value of Herrings landed in Scotland by Steam, Motor, and Sailing Boats respectively in the year 1919 . . . . .	9
II.—Returns respecting Vessels arriving and Fish landed in the various Districts during the year 1919 . . . . .	12
III.—Summary of Means of Capture and Fish landed for the years from 1889 to 1919 inclusive . . . . .	74

### TABLE C.

#### FISH USED IN A FRESH STATE.

Statement showing the Estimated Quantity of Fish consumed Fresh in Scotland, or dispatched from Scotland in a Fresh State, in the year 1919 . . . . .	75
---	----

### TABLE D.

#### FISH CURED.

I.—Return showing the Quantities of Fish Cured, and the Modes of Cure, in the year 1919 . . . . .	76
II.—Statement showing the Number of Barrels of Herrings Cured, Gutted and Ungutted, on the East and West Coasts of Scotland, for the Hundred and nine years ended 31st December 1919 . . . . .	78

### TABLE E.

#### CURED FISH BRANDED, AND EXPORTED, AND VALUE OF SAME.

I.—Return showing the Number of Barrels of Cured Herrings Branded, distinguishing the different Brands, and the Amount of Brand Fees collected during the year 1919 . . . . .	82
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	PAGE
II.—Return showing the Total Quantity of Fish Exported to England, Ireland, to the Continent, and to Places out of Europe, during the year 1919 . . . . .	84
III.—(1) Statement showing the Ports and Places to which the Herrings Exported to the Continent were Shipped during the year 1919 . . . . .	85
(2) Return showing, by Districts, the Direct Exports of Cured Herrings to Germany and Russia. . . . .	<i>Suspended</i>
IV.—Return showing the Estimated Value of Cured Herrings, Branded and Unbranded, as well as of Cod, etc., Cured during the year 1919 . . . . .	87
V.—Return showing, under each of the Crown Brands, the Number of Barrels of Cured Herrings presented to the Officers of the various Fishery Districts for Inspection with a view to Branding if in accordance with the Board's Regulations, the Number and Percentage in respect of which the Brand was Refused, and the Principal Grounds of Refusal . . . . .	<i>Suspended</i>

## TABLE F.

I.—PERSONS EMPLOYED.—Return showing the Total Number of Persons employed in connection with the various branches of the Sea Fishing industry during the year 1919 . . . . .	90
II.—TRANSPORT TRADE.—Return showing the Tonnage of Shipping and the Number of Seamen engaged in transporting Fish and Curing Material . . . . .	<i>Suspended</i>
III.—CASUALTIES.—Return of the Casualties sustained in connection with the Sea Fisheries of Scotland . . . . .	<i>Suspended</i>

## TABLE G.

I. BOATBUILDING.—Return showing the Number and Value of Fishing Vessels constructed within the boundaries of each District in Scotland . . . . .	<i>Suspended</i>
II. BARRE -MAKING.—Return of the Numbers of Barrels and Half-Barrels constructed and of the Number of Quarter-Cran Baskets branded in Scotland . . . . .	<i>Suspended</i>

## TABLE H.

## REGISTRATION OF FISHING BOATS.

Return of Fishing Boat Proceedings under the Sea Fisheries Acts of 1868 and 1883, and Sea Fisheries (Scotland) Amendment Act of 1885 . . . . .	<i>Suspended</i>
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## TABLE I.

## PIERS AND HARBOURS.

I.—Account of Receipts and Payments by the Board for Building, Extending, and Repairing Piers or Harbours in Scotland, in the year 1919 . . . . .	92
II.—Return of Piers and Harbours erected or improved by the Board from 1st January 1883 to 31st December 1919 . . . . .	93
III.—Statement showing particulars of the Brand Fee Revenue, Cost of Collection, Surplus and Expenditure during the period from 1881 to 1919-20 . . . . .	94



TABLE K.

	PAGE
I.—DAMAGE TO BOATS OR GEAR: Return of Complaints of Damage to Fishing Vessels or their Gear by other Fishing Vessels made to, and Investigated by, Officers of the Fishery Board . . .	<i>Suspended</i>
II.—ILLEGAL TRAWLING: Return of Prosecutions undertaken against Masters of British and Foreign Trawl Vessels . . .	<i>Suspended</i>
III.—OFFENCES OTHER THAN ILLEGAL TRAWLING. Return of Prosecutions undertaken . . . . .	<i>Suspended</i>
IV.—ILLEGAL TRAWLING: Summary of Prosecutions from 1886 . . .	<i>Suspended</i>

TABLE A.—No. I.

MEANS OF CAPTURE.—Particulars relating to the Vessels, Gear, and Men actually employed in the Scottish Fishing Industry in the Year 1919.

## I. SAILING VESSELS.

No.	District.	Number of Vessels.					Value of Vessels	Value of Fishing Gear.	Total Value.	No. of Fishermen and Boys.
		1st Class.		2nd Class.	3rd Class.	Total.				
		45 feet keel and upwards.	30 to 45 feet keel.	18 to 30 feet keel.	Under 18 feet keel.					
EAST COAST.							£	£	£	
1	Eyemouth . . .	...	4	16	9	29	677	1,212	1,889	68
2	Leith . . .	20	22	81	103	226	6,639	13,226	19,865	509
3	Anstruther . . .	...	15	62	38	115	2,295	7,780	10,075	315
4	Montrose . . .	...	19	26	53	98	2,121	2,146	4,267	236
5	Stonehaven . . .	...	...	16	54	70	1,130	3,077	4,207	97
6	Aberdeen . . .	...	...	30	46	76	980	2,189	3,169	152
7	Peterhead . . .	6	...	22	124	152	3,816	8,908	12,724	376
8	Fraserburgh . . .	2	...	2	199	203	4,710	4,019	8,729	434
9	Banff . . .	14	2	21	81	118	6,765	16,284	23,049	366
10	Buckie . . .	39	...	84	56	179	20,640	33,508	54,148	676
11	Findhorn . . .	4	1	10	18	33	1,865	4,276	6,141	100
12	Cromarty . . .	7	...	49	24	80	3,628	8,520	12,148	290
13	Helmsdale . . .	3	...	22	28	53	1,734	4,049	5,783	144
14	Lybster . . .	...	2	3	35	40	423	1,074	1,497	100
15	Wick . . .	1	...	...	113	114	1,450	7,410	8,860	362
East Coast Totals .		96	65	444	981	1,586	58,873	117,678	176,551	4,225
Orkney and Shetland.										
16	Orkney . . .	6	...	7	387	400	2,970	5,032	8,002	872
17	Shetland . . .	82	1	18	183	284	27,750	46,859	74,609	1,022
Orkney and Shetland Totals .		88	1	25	570	684	30,720	51,891	82,611	1,894
WEST COAST.										
18	Stornoway . . .	26	31	130	170	357	13,960	35,400	49,360	1,367
19	Barra . . .	...	...	93	128	221	2,609	6,419	9,028	794
20	Loch Broom . . .	...	1	23	122	146	3,983	7,220	11,203	282
21	Loch Carron & Skye . . .	...	1	60	159	220	3,190	6,783	9,973	422
22	Fort-William . . .	...	...	26	64	90	822	2,500	3,322	255
23	Campbeltown . . .	...	...	61	42	103	2,173	1,616	3,789	157
24	Inveraray . . .	...	...	12	54	66	827	983	1,810	99
25	Rothsay . . .	...	...	13	43	56	499	1,640	2,139	56
26	Greenock . . .	...	...	10	28	38	421	645	1,066	46
27	Ballantrae . . .	...	...	88	67	155	4,746	2,641	7,387	233
West Coast Totals .		26	33	516	877	1,452	33,230	65,847	99,077	3,711
Grand Totals for 1919		210	99	985	2,428	3,722	122,823	235,416	358,239	9,830
Grand Totals for 1918		268	103	832	1,803	3,006	133,699	248,638	382,337	7,397
Increase in 1919 .		...	...	153	625	716	...	...	...	2,433
Decrease in 1919 .		58	4	...	...	...	10,876	13,222	24,098	...





TABLE A.  
MEANS OF CAPTURE.—Particulars relating to the Vessels, Gear, and  
III. STEAM

		Steam Liners and Steam Drifters.					Steam
No.	District.	No. of Vessels.	Value of Vessels.	Value of Fishing Gear.	Total Value.	No. of Fishermen and Boys.	No. of Vessels.
EAST COAST.			£	£	£		
1	Eyemouth . . . . .	18	66,250	21,742	87,992	162	...
2	Leith . . . . .	6	27,000	7,278	34,278	48	55
3	Anstruther . . . . .	43	163,400	50,440	213,840	344	...
4	Montrose . . . . .	6	29,550	8,598	38,148	54	8
5	Stonehaven . . . . .	...	...	...	...	...	...
6	Aberdeen . . . . .	{ 45 *2	149,150 7,000	45,828 500	194,978 7,500	405 18	193 ‡20
7	Peterhead . . . . .	{ 119 †24	273,624 55,200	175,289 33,931	448,913 89,131	891 236	10
8	Fraserburgh . . . . .	69	249,700	71,577	321,277	726	...
9	Banff . . . . .	62	241,800	84,440	326,240	434	...
10	Buckie . . . . .	198	772,200	273,240	1,045,440	1,782	...
11	Findhorn . . . . .	64	192,000	81,000	273,000	576	...
12	Cromarty . . . . .	...	...	...	...	...	...
13	Helmsdale . . . . .	3	9,900	3,074	12,974	6	...
14	Lybster . . . . .	...	...	...	...	...	...
15	Wick . . . . .	{ 11 †5	27,500 22,000	10,912 5,930	38,412 27,930	88 50	...
East Coast Totals . . . . .		675	2,286,274	873,779	3,160,053	5,820	286
Orkney and Shetland.							
16	Orkney . . . . .	...	...	...	...	...	...
17	Shetland . . . . .	{ 9 †22	26,800 77,000	6,147 14,850	32,947 91,850	81 220	...
Orkney and Shetland Totals . . . . .		31	103,800	20,997	124,797	301	...
WEST COAST.							
18	Stornoway . . . . .	{ 18 †43	45,000 129,000	22,074 52,730	67,074 181,730	162 387	...
19	Barra . . . . .	...	...	...	...	...	...
20	Loch Broom . . . . .	...	...	...	...	...	...
21	Loch Carron and Skye . . . . .	...	...	...	...	...	...
22	Fort-William . . . . .	...	...	...	...	...	...
23	Campbeltown . . . . .	...	...	...	...	...	...
24	Inveraray . . . . .	...	...	...	...	...	...
25	Rothsay . . . . .	...	...	...	...	...	...
26	Greenock . . . . .	...	...	...	...	...	8
27	Ballantrae . . . . .	...	...	...	...	...	...
West Coast Totals . . . . .		61	174,000	74,804	248,804	549	8
Grand Totals for 1919 . . . . .		767	2,564,074	969,580	3,533,654	6,670	294
Grand Totals for 1918 . . . . .		179	575,250	161,957	737,207	1,478	92
Increase in 1919 . . . . .		588	1,988,824	807,623	2,796,447	5,192	202
Decrease in 1919 . . . . .		...	...	...	...	...	...

\* Steam liners other than Scottish.

† Steam drifters other than Scottish.

‡ Steam trawlers other than Scottish.





TABLE A.—No. I.—*continued*.

MEANS OF CAPTURE.—Particulars relating to the Vessels, Gear, and Men actually employed in the Scottish Fishing Industry in the Year 1919.

## IV. ALL VESSELS.

No.	District.	No. of Vessels.	Value of Vessels.	Value of Fishing Gear.	Total Value.	No. of Fisher- men and Boys.
<b>EAST COAST.</b>						
			£	£	£	
1	Eyemouth . . . .	123	131,397	68,996	200,393	587
2	Leith . . . . .	391	662,419	85,449	747,868	1,583
3	Anstruther . . . .	270	266,755	129,086	395,841	1,323
4	Montrose . . . . .	243	184,025	32,525	216,550	849
5	Stonehaven . . . .	88	14,980	5,537	20,517	177
6	Aberdeen . . . . .	366	2,717,155	191,801	2,908,956	2,865
7	Peterhead . . . . .	352	473,550	245,656	719,206	1,793
8	Fraserburgh . . . .	449	437,990	180,345	618,335	2,020
9	Banff . . . . .	307	326,165	146,086	472,251	1,317
10	Buckie . . . . .	508	979,740	440,421	1,420,161	3,369
11	Findhorn . . . . .	208	254,110	114,394	368,504	1,180
12	Cromarty . . . . .	89	5,128	8,910	14,038	318
13	Helmsdale . . . . .	92	20,364	13,126	33,490	295
14	Lybster . . . . .	45	943	1,230	2,173	120
15	Wick . . . . .	235	115,710	58,610	174,320	913
East Coast Totals . .		3,766	6,590,431	1,722,172	8,312,603	18,709
<b>Orkney and Shetland.</b>						
16	Orkney . . . . .	433	6,490	6,218	12,708	961
17	Shetland . . . . .	369	180,745	85,678	266,423	1,609
Orkney and Shetland Totals		802	187,235	91,896	279,131	2,570
<b>WEST COAST.</b>						
18	Stornoway . . . . .	431	194,730	115,818	310,548	1,992
19	Barra . . . . .	251	14,659	14,056	28,715	957
20	Loch Broom . . . . .	164	7,783	9,823	17,606	352
21	Loch Carron and Skye .	300	27,150	23,505	50,655	720
22	Fort-William . . . .	113	6,272	4,465	10,737	343
23	Campbeltown . . . .	181	36,873	13,188	50,061	542
24	Inveraray . . . . .	136	25,187	7,104	32,291	375
25	Rothesay . . . . .	81	4,894	5,203	10,097	129
26	Greenock . . . . .	66	68,731	5,252	73,983	182
27	Ballantrae . . . . .	243	34,486	12,543	47,029	537
West Coast Totals . .		1,966	420,765	210,957	631,722	6,129
Grand Totals for 1919 . .		6,534	7,198,431	2,025,025	9,223,456	27,408
Grand Totals for 1918 . .		4,614	2,181,739	856,853	3,038,592	15,416
Increase in 1919 . . .		1,920	5,016,692	1,168,172	6,184,864	11,992
Decrease in 1919 . . .		...	...	...	...	...



TABLE B.—No. I.

FISH LANDED.—STATEMENT of the Total Quantity and Value of **Herrings** landed by Steam, Motor, and Sailing Boats respectively in **Scotland** during the various Seasons of the Year 1919.

No.	DISTRICTS.	Winter. (1st Jan. to 31st Mar.)								Early Summer. (1st April to 30th June.)	
		Steam.		Motor.		Sail.		TOTAL.		Steam.	
		Cwts. Landed.	Value.	Cwts. Landed.	Value.	Cwts. Landed.	Value.	Cwts. Landed.	Value.	Cwts. Landed.	Value.
	<b>EAST COAST.</b>		£		£		£		£		£
1	Eyemouth . .	14	25	297	535	..	..	311	560	196	305
2	Leith . .	..	..	8,817	15,131	11,659	18,779	20,476	33,910	..	..
3	Anstruther . .	..	..	16,800	30,166	816	1,456	17,616	31,622	..	..
4	Montrose . .	..	..	..	..	86	144	86	144	14	14
5	Stonehaven . .	..	..	..	..	..	..	..	..	..	..
6	Aberdeen . .	1,332	1,348	..	..	..	..	1,332	1,348	10,667	9,310
7	Peterhead . .	8,275	9,225	157	107	..	..	8,432	9,332	39,095	13,306
8	Fraserburgh . .	7,998	7,492	553	421	..	..	8,551	7,913	32,229	8,971
9	Banff . .	50	53	19	25	..	..	69	78	778	281
10	Ruckie . .	9,373	9,622	6,222	6,850	..	..	15,595	16,472	6,075	1,641
11	Findhorn . .	14	10	576	976	19,323	30,124	19,918	31,110	36	21
12	Cromarty . .	..	..	..	..	..	..	..	..	..	..
13	Helmsdale . .	..	..	..	..	..	..	..	..	..	..
14	Lybster . .	..	..	..	..	..	..	..	..	..	..
15	Wick . .	30,969	34,893	33,036	43,581	193	95	64,198	78,569	23,093	12,292
	East Coast Totals carried down . }	53,025	62,668	66,477	97,792	32,082	50,598	156,584	211,058	112,183	46,141
	<b>ORKNEY AND SHETLAND.</b>										
16	Orkney . .	..	..	..	..	..	..	..	..	..	..
17	Shetland . .	3,931	3,087	3,227	2,773	..	..	7,158	5,860	33,947	14,644
	Orkney and Shetland Totals cd. down . }	3,931	3,087	3,227	2,773	..	..	7,158	5,860	33,947	14,644
	<b>WEST COAST.</b>										
18	Stornoway . .	133,446	126,268	54,239	54,365	6,191	4,351	198,876	184,984	10,028	7,604
19	Barra . .	..	..	3,649	1,744	3,511	1,811	7,160	3,555	360	142
20	Loch Broom . .	479	247	1,081	561	1,670	1,125	3,250	1,933	..	..
21	Loch Carron & Skye . .	34,849	42,086	41,439	50,883	4,597	3,332	80,885	96,301	794	789
22	Fort-William . .	108,557	129,719	81,093	100,135	682	587	190,332	230,441	62,406	67,965
23	Campbeltown . .	..	..	11,687	16,991	31	10	11,718	17,001	..	..
24	Inveraray . .	..	..	371	180	..	..	371	180	..	..
25	Rothsay . .	..	..	51,797	46,895	267	294	52,064	47,189	..	..
26	Greenock . .	..	..	4,757	3,612	175	74	4,932	3,686	..	..
27	Ballaanrae . .	..	..	28,710	40,744	687	1,187	29,397	41,931	..	..
	West Coast Totals carried down . }	282,331	298,320	278,823	316,110	17,811	12,771	578,965	627,201	73,588	76,500
	<b>TOTALS brought down.</b>										
	East Coast . .	53,025	62,668	66,477	97,792	32,082	50,598	156,584	211,058	112,183	46,141
	Orkney & Shetland . .	3,931	3,087	3,227	2,773	..	..	7,158	5,860	33,947	14,644
	West Coast . .	282,331	298,320	278,823	316,110	17,811	12,771	578,965	627,201	73,588	76,500
	Grand Tls. for 1919 . .	344,287	364,075	348,527	416,675	49,893	63,369	742,707	844,119	219,718	137,285
	Grand Tls. for 1918 . .	387,721	528,510	343,814	504,424	49,101	60,795	780,636	1,093,729	125,519	190,900
	Increase in 1919 . .	..	..	4,713	..	792	2,574	..	..	94,199	..
	Decrease in 1919 . .	43,434	164,435	..	87,749	..	..	37,929	249,610	..	53,615

TABLE B.—

FISH LANDED.—STATEMENT of the Total Quantity and Value  
in Scotland during the

No.	DISTRICTS.	Early Summer—continued. (1st April to 30th June.)						Great Summer and Autumn. (1st July to 31st Dec.)			
		Motor.		Sail.		TOTAL.		Steam.		Motor.	
		Cwts. Landed.	Value.	Cwts. Landed.	Value.	Cwts. Landed.	Value.	Cwts. Landed.	Value.	Cwts. Landed.	Value.
	EAST COAST.		£		£		£		£		£
1	Eyemouth . . .	2,775	4,128	..	..	2,971	4,433	11,851	6,679	34,965	20,245
2	Leith . . .	2,146	3,600	2,097	2,890	4,243	6,490	121	57	37	43
3	Anstruther . . .	477	798	102	182	579	980	..	..	206	61
4	Montrose . . .	14	12	..	..	28	26	119	63	68	40
5	Stonehaven . . .	..	..	35	29	35	29	..	..	..	..
6	Aberdeen . . .	3,371	2,029	..	..	14,038	11,339	46,209	27,498	3,707	2,041
7	Peterhead . . .	16,394	5,544	3,224	1,222	58,713	19,772	272,997	121,519	143,402	63,763
8	Fraserburgh . . .	38,780	9,369	6,062	1,716	77,071	20,055	349,039	155,753	332,755	145,035
9	Banff . . .	1,726	705	332	195	2,836	1,181	10,447	4,715	9,510	4,355
10	Buckie . . .	3,003	893	833	348	9,911	2,882	35,299	15,728	20,718	9,147
11	Findhorn . . .	142	49	96	51	274	121	4,529	1,531	4,692	1,208
12	Cromarty . . .	..	..	..	..	..	..	..	..	..	..
13	Helmsdale . . .	..	..	..	..	..	..	..	..	336	135
14	Lybster . . .	..	..	..	..	..	..	..	..	..	..
15	Wick . . .	29,150	13,543	1,117	500	53,360	26,335	166,362	62,505	132,206	47,535
	East Coast Totals carried down . .	97,978	40,670	13,898	6,832	224,059	93,643	897,003	396,048	682,605	293,658
	ORKNEY AND SHETLAND.										
16	Orkney . . .	21	11	221	96	242	107	2,633	789	2,355	781
17	Shetland . . .	28,764	9,464	68,104	16,339	128,815	40,447	151,337	63,502	78,137	31,690
	Orkney and Shetland Totals cd. down . .	28,785	9,475	68,325	16,435	129,057	40,554	153,970	64,291	80,492	32,471
	WEST COAST.										
18	Stornoway . . .	6,734	5,110	7,155	4,247	23,917	16,961	55,566	33,198	7,308	4,427
19	Barra . . .	3,956	1,821	1,066	515	5,382	2,478	4,700	2,476	5,490	3,251
20	Loch Broom . . .	34	18	..	..	34	18	112	31	8,202	2,093
21	Loch Carron & Skye . . .	1,333	984	325	101	2,452	1,874	19,187	17,078	19,242	14,287
22	Fort-William . . .	44,401	41,777	1,148	823	107,955	110,565	58,295	52,173	21,839	17,936
23	Campbeltown . . .	7,779	6,632	..	..	7,779	6,632	..	..	42,585	20,269
24	Inveraray . . .	1,864	1,171	28	20	1,892	1,191	..	..	39,493	14,673
25	Rothsay . . .	1,434	772	185	174	1,619	946	..	..	55,451	16,685
26	Greenock . . .	600	115	252	143	861	258	..	..	7,171	2,604
27	Ballantrae . . .	6,528	3,313	70	67	6,598	3,380	..	..	8,245	4,402
	West Coast Totals carried down . .	74,672	61,713	10,229	6,090	158,489	144,303	137,860	104,956	214,941	100,627
	TOTALS brought down.										
	East Coast . . .	97,978	40,670	13,898	6,832	224,059	93,643	897,003	396,048	682,605	293,658
	Orkney & Shetland . . .	28,785	9,475	68,325	16,435	129,057	40,554	153,970	64,291	80,492	32,471
	West Coast . . .	74,672	61,713	10,229	6,090	158,489	144,303	137,860	104,956	214,941	100,627
	Grand Tls. for 1919 . . .	199,435	111,858	92,452	29,357	511,605	278,500	1,188,833	565,295	978,038	426,756
	Grand Tls. for 1918 . . .	204,222	287,862	106,284	84,580	436,025	563,342	195,184	225,936	420,201	470,563
	Increase in 1919 . . .	..	..	..	..	75,580	..	993,649	339,359	557,837	..
	Decrease in 1919 . . .	4,787	176,004	13,882	55,223	..	294,842	..	..	..	43,807



No. I.—continued.

of Herrings landed by Steam, Motor, and Sailing Boats respectively  
various Seasons of the Year 1919.

Great Summer and Autumn—contd. (1st July to 31st Dec.)				TOTALS.								GRAND TOTAL.		No.
Sail.		TOTAL.		Steam.		Motor.		Sail.						
Cwts. Landed.	Value.	Cwts. Landed.	Value.	Cwts. Landed.	Value.	Cwts. Landed.	Value.	Cwts. Landed.	Value.	Cwts. Landed.	Value.	Cwts. Landed.	Value.	
£	£	£	£	£	£	£	£	£	£	£	£	£	£	
..	..	46,816	26,924	12,061	7,009	38,037	24,908	..	..	50,098	31,917	1		
467	339	625	439	121	57	11,000	18,774	14,223	22,008	25,344	40,839	2		
..	..	206	61	..	..	17,483	31,025	918	1,638	18,401	32,663	3		
297	145	484	248	133	77	82	52	383	289	598	418	4		
105	69	105	69	..	..	..	..	140	98	140	98	5		
..	..	49,916	29,539	58,208	33,156	7,078	4,070	..	..	65,286	42,226	6		
17,277	6,872	433,676	192,154	320,367	144,050	159,953	69,414	20,501	7,794	500,821	221,258	7		
43,561	17,636	725,388	318,424	389,296	172,216	372,091	154,825	49,623	19,351	811,019	346,392	8		
599	223	20,556	9,293	11,275	5,049	11,255	5,085	931	418	23,461	10,552	9		
4,155	1,569	60,172	26,444	50,747	26,991	29,943	16,890	4,988	1,917	85,678	45,798	10		
41,195	9,825	50,416	12,564	4,579	1,562	5,410	2,233	60,619	40,000	70,698	43,795	11		
107	53	107	53	..	..	..	..	107	53	107	53	12		
49	17	385	152	..	..	336	135	49	17	385	152	13		
500	282	560	282	..	..	..	..	560	282	560	282	14		
10,735	2,115	309,303	112,205	220,424	109,690	194,392	104,709	12,045	2,710	426,861	217,109	15		
119,107	39,145	1,698,715	728,851	1,067,211	504,857	847,060	432,120	165,087	96,575	2,079,358	1,033,552			
..	..	..	..	..	..	..	..	..	..	..	..			
598	208	5,586	1,778	2,633	789	2,376	792	819	304	5,628	1,885	16		
142,240	55,589	371,714	150,581	189,215	81,233	108,128	43,927	210,344	71,728	507,687	196,838	17		
142,838	55,597	377,300	152,359	191,848	82,022	110,504	44,719	211,163	72,032	513,515	198,773			
..	..	..	..	..	..	..	..	..	..	..	..			
30,105	18,643	92,979	56,268	204,040	167,070	68,281	63,902	43,451	27,241	315,772	258,213	18		
2,779	1,506	12,969	7,233	5,060	2,618	13,095	6,816	7,356	3,832	25,511	13,266	19		
15,124	4,869	22,438	6,993	591	278	9,317	2,672	16,794	5,994	26,702	8,944	20		
2,589	1,261	41,018	32,626	54,830	59,953	62,014	66,154	7,511	4,694	124,355	130,891	21		
140	93	80,274	70,202	229,258	249,857	147,333	159,848	1,970	1,503	378,561	411,208	22		
608	246	43,193	20,515	..	..	62,051	43,892	639	256	62,690	44,148	23		
302	149	39,710	14,822	..	..	41,643	16,024	330	169	41,973	16,193	24		
405	161	55,856	16,846	..	..	108,682	64,352	837	629	109,539	64,981	25		
194	97	7,365	2,701	..	..	12,537	6,331	621	314	13,158	6,645	26		
112	122	8,357	4,524	..	..	43,483	48,459	869	1,376	44,352	49,835	27		
52,358	27,147	405,159	232,730	493,779	479,776	568,436	478,450	80,398	46,008	1,142,613	1,004,234			
..	..	..	..	..	..	..	..	..	..	..	..			
119,107	39,145	1,698,715	728,851	1,067,211	504,857	847,060	432,120	165,087	96,575	2,079,358	1,033,552			
142,838	55,597	377,300	152,359	191,848	82,022	110,504	44,719	211,163	72,032	513,515	198,773			
52,358	27,147	405,159	232,730	493,779	479,776	568,436	478,450	80,398	46,008	1,142,613	1,004,234			
314,303	121,889	2,481,174	1,113,940	1,752,838	1,066,655	152,6000	955,289	456,648	214,615	3,735,486	2,236,559			
229,695	183,540	845,080	880,069	708,424	945,346	968,237	126,2849	385,080	328,915	2,061,741	2,537,110			
84,608	..	1,636,094	233,901	1,044,414	121,309	557,763	..	71,568	..	1,673,745	..			
..	61,651	..	..	..	..	..	307,560	..	114,300	..	300,551			



















TABLE B.—No. II.—RETURN respecting Vessels arriving and Fish landed in the District of Montrose during the Year 1919, and showing the catch and value during the previous Year.

Method of Fishing.	Trawls.			Lines.						Nets.						1919. Total Quantity and Value.		1918. Total Quantity and Value.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
	Steam.*		Value.	Steam.		Motor.		Sail.		Total.		Steam.		Motor.		Sail.		Total.		Quantity.	Value.	Quantity.	Value.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	Quantity.	Cwt.		Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.					Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	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Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	Quantity.	Cwt.	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[illegible]

\* Included are 28 landings by motor trawlers, representing 28 days' absence from port, and totalling 86 cwt. (mostly plaice), value £315.





[illegible]

## SHELL-FISH

TABLE B.—No. II.—RETURN respecting Vessels arriving and Fish landed in the District of Aberdeen during the Year 1919, and showing the catch and value during the previous Year.

Method of Fishing.	Trawls.		Lines.						Nets.						1919.		1918.	
	Quantity.	Value.	Steam.	Motor.	Sail.	Total.	Quantity.	Value.	Steam.	Motor.	Sail.	Total.	Quantity.	Value.	Cwt.	£	Total Quantity and Value.	Total Quantity and Value.
No. of Vessels arriving			4,198			5,979			951	113	..	1,064						
Aggregate No. of Days absent from Port . . . . .			21,412	..	..	..	..	..	..	..	..	..	..	..				
Description of Fish.																		
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Cwt.	£		
PELAGIC FISH—																		
Herrings . . . . .	988	829	29	13	..	..	29	13	57,191	7078	4970	64,269	41,384	..	65,286	42,226	3,241	3,241
Sprats . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Sparlings . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Mackerel . . . . .	183	198	..	..	769	715	996	864	858	129	71	987	541	..	2,166	1,603	578	1,138
Total of Pelagic Fish	1,171	1,027	29	13	769	715	1,025	877	58,049	7207	4141	65,256	41,925	..	67,452	43,829	2,743	4,379
DEMERSAL FISH—																		
ROUND.																		
Cod . . . . .	141,105	252,742	22,783	40,753	7593	14,959	16	62	..	..	..	..	..	..	171,497	308,419	20,542	80,815
Codling . . . . .	186,341	270,642	976	1,699	1047	2428	269	615	..	..	..	..	..	..	189,233	275,384	32,901	114,034
Ling . . . . .	28,305	34,904	35,541	49,715	196	3027	..	..	..	..	..	..	..	..	65,809	87,676	4,453	13,517
Torsk (Tusk) . . . . .	370	384	2,807	2,744	4	3	..	..	..	..	..	..	..	..	3,181	3,131	90	219
Saithe (Coal Fish) . . . . .	61,131	53,114	1,842	1,569	954	772	86	118	..	..	..	..	..	..	64,013	55,603	4,051	9,608
Haddock, ex. La. . . . .	70,919	84,680	57	9	..	57	..	..	..	..	..	..	..	..	70,976	84,770	1,357	4,864
" Large . . . . .	190,017	340,754	..	..	6099	12,985	75	156	..	..	..	..	..	..	190,191	353,895	50,977	232,444
" Medium . . . . .	65,409	98,310	..	..	98	152	756	1,430	..	..	..	..	..	..	66,263	99,892	17,885	77,532
" Small . . . . .	152,559	220,688	..	..	2499	4202	765	933	..	..	..	..	..	..	155,823	225,823	82,475	229,736



[illegible]

## SHELL-FISH.

	Oysters.	Lobsters.	Crabs.	Mussels.	Clams.	Unclassified.
	No.	No.	No.	Cwts.	Cwts.	Cwts.
TOTAL VALUE OF ALL FISH	£	76	183	..	..	2
Fish used for Manure (included above)	"	.	.	.	.	.
Bait {	" "	.	.	.	.	.
" "	" "	.	.	.	.	.

\* Included are 38 landings by motor trawlers, representing an aggregate absence from port of 49 days, and totalling 317 cwts. (mostly plaice), value £689. NOTE.—In addition to the above, 149 cwts. (mostly haddocks), value £306, were landed by foreign fishing vessels during the year 1919.

TABLE B.—No. II.—RETURN respecting Vessels arriving and Fish landed in the District of Peterhead during the Year 1919, and showing the catch and value during the previous Year.

Method of Fishing.		Trawls.		Lines.				Nets.				1919. Total Quantity and Value.		1918. Total Quantity and Value.	
		Steam.*		Steam.	Motor.	Sail.	Total.	Steam.	Motor.	Sail.	Total.				
No. of Vessels arriving Aggregate No. of Days absent from Port		102		428	2,067	4,089	6,584	4,630	2,840	317	7,787				
		..		..	..	..	..	..	..	..	..				
Description of Fish.		Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.		
PELAGIC FISH—		Cwt.	£	Cwt.	£	Cwt.	£	Cwt.	£	Cwt.	£	Cwt.	£	Cwt.	£
Herrings		..	..	..	..	..	..	320,367	144,050	159,953	69,414	20,501	7,794	501,821	221,258
Sprats		..	..	..	..	..	..	..	..	..	..	..	..	..	..
Sparlings		..	..	..	..	..	..	..	..	..	..	..	..	..	..
Mackerel		..	..	..	96	339	197	2,935	1,033	1,628	440	221	72	4,784	1,792
Total of Pelagic Fish.		..	..	..	96	339	197	323,302	145,083	161,581	69,854	20,722	7,866	505,605	222,803
DEMERIAL FISH—															
ROUND.															
Cod		343	857	1,182	1,265	315	461	..	..	..	..	..	..	2,158	3,008
Codling		691	1,161	15	13	2458	4,660	..	..	..	..	..	..	5,788	11,024
Ling		12	27	522	791	128	168	..	..	..	..	..	..	668	993
Torsk (Tusk)		..	..	46	50	..	..	..	..	..	..	..	..	46	50
Saithe (Coal Fish).		..	..	1,333	657	117	108	..	..	..	..	..	..	1,510	820
Haddocks, ex. Large		1557	3,938	..	..	498	744	..	..	..	..	..	..	..	..
" Large		475	939	..	..	1046	1,083	..	..	..	..	..	..	2,447	5,251
" Medium.		1856	3,140	..	..	280	313	..	..	..	..	..	..	3,221	4,560
" Small		..	..	..	..	..	..	..	..	..	..	..	..	3,782	5,763



Whittings	167	204	..	13	406	196	649	430	1,046	626	..	..	..	..	..	..	..	..	1,213	830	1,652	2,835
Conger Eels	..	..	..	..	..	18	1	1	20	32	..	..	..	..	..	..	..	..	20	32	24	56
Gurnards	..	70	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	70	72	252	268
Caulfish	..	12	19	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	12	19	25	52
Monks (Anglers)	..	46	40	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	46	40	170	361
Hake	..	10	16	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	10	17	33	161
Total of Round Fish	5242	10,418	3,107	2,790	5258	7,751	6,023	9,339	14,388	19,880	..	..	..	..	..	..	..	..	19,030	30,298	22,978	53,330
FLAT.																						
Turbot	..	7	38	..	..	..	..	..	666	3,487	..	..	..	..	..	..	..	..	7	28	7	34
Hallibut	..	9	44	..	..	365	..	..	..	1	..	..	..	..	..	..	..	..	675	3,531	121	708
Lemon Soles	..	66	366	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	66	367	78	486
Flounders	..	..	..	..	..	..	42	32	42	32	..	..	..	..	..	..	..	..	42	32	119	152
Plaice, Large	..	622	3,024	..	15	52	15	46	30	98	..	..	..	..	..	..	..	..	652	3,122	964	4,902
Plaice, Medium	..	160	523	..	15	41	51	173	66	214	..	..	..	..	..	..	..	..	226	737	720	3,783
Small	..	..	..	..	..	..	30	128	30	128	..	..	..	..	..	..	..	..	30	128	128	459
Brill	..	1	1	..	..	..	181	295	278	457	..	..	..	..	..	..	..	..	1	4	25	177
Dabs	..	48	62	..	97	162	..	..	..	..	..	..	..	..	..	..	..	..	326	519	617	1,545
Whitchies	..	6	38	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	6	38	308	1,871
Megrim	..	1	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	3	5	19
Total of Flat Fish	920	4,102	591	3,122	202	621	319	674	1,112	4,417	..	..	..	..	..	..	..	..	2,032	8,519	3,071	14,239
Skates and Rays	88	127	963	846	250	225	..	..	1,233	1,071	..	..	..	..	..	..	..	..	1,321	1,198	360	758
Squids	..	..	..	..	..	..	15	15	63	63	..	..	..	..	..	..	..	..	132	196	17	31
Unclassified kinds	64	63	11	14	42	34	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
GRAND TOTALS	6314	14,719	1,032	6,772	5848	8,681	6,696	10,225	17,236	25,678	323,302	145,083	161,581	69,854	20,722	7,866	505,605	222,802	529,155	263,191	233,177	316,794
SHELL-FISH.																						
Oysters.	No.	£	Lobsters.		Crabs.		Mussels.		Clams.		Unclassified.											
			No.	£	No.	£	Cwts.	£	Cwts.	£	Cwts.	£										
			231	13	391	5	580	26	..	..	..	..										
TOTAL VALUE OF ALL FISH	..	..	..	..	..	..	..	..	..	..	..	..										
Fish used for Manure (included above)	..	..	..	..	..	..	..	..	..	..	..	..										
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[illegible]

## SHELL-FISH.

	Oysters.	Lobsters.	Crabs.	Mussels.	Clams.	Unclassified.
	No.	No.	No.	Cwts.	Cwts.	Cwts.
	£	£	£	£	£	£
19	..	1,830	23,135	..	..	..
20	..	152	422	..	..	630
21	..	..	..	..	..	593,992
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TABLE B.—No II.—RETURN respecting Vessels arriving and Fish landed in the District of **Buckie** during the Year 1919, and showing the catch and value during the previous Year.

[illegible]



























[illegible]

## SHELL-FISH.

[illegible]





[illegible]

## SHELL-FISH.

[illegible]









































[illegible]













TABLE B.—No. II.—RETURN respecting Vessels arriving and Fish landed in the District of Ballantrae during the Year 1919, and showing the catch and value during the previous Year.

[illegible]





TABLE B.—No. II.—FISH LANDED.—STATEMENT of the Total Quantity and Value of the different kinds of White and Shell-Fish landed on the **East Coast of Scotland** during the Year 1919.

DESCRIPTION OF FISH.	TRAWLS.				LINES.								NETS.								1919. Grand Total Quantity and Value.		1918. Grand Total Quantity and Value.	
	Steam and Motor.		TOTAL.		Steam.		Motor.		Sail.		TOTAL.		Steam.		Motor.		Sail.		TOTAL.					
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.				
PELAGIC FISH.	Herrings	1,029	857	29	13	..	..	..	..	29	13	1,066,153	503,987	847,060	432,120	165,087	96,575	2,073,300	1,032,682	2,079,358	1,033,552	802,428	807,589	
	Sprats	..	..	..	..	..	..	..	..	..	..	..	..	..	63	13	50,894	10,327	50,894	10,327	61,791	45,386		
	Sparlings	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	218	729	218	729	195	745		
	Mackerel	221	230	2,076	1,172	2,629	1,860	4,705	3,032	8,934	3,773	6,494	2,830	295	628	295	16,106	6,838	21,082	10,160	27,406	30,613		
	Total of Pelagic Fish	1,250	1,087	29	13	2,076	1,172	2,629	1,860	4,734	3,045	1,075,137	507,760	853,617	434,963	216,764	107,913	2,145,518	1,050,636	2,151,502	1,051,768	891,820	984,333	
DEMERSAL FISH.																								
	(a) ROUND.																							
Cod	393,340	650,445	26,096	45,798	81,842	157,412	36,210	59,006	147,148	262,216	2,542	6,567	36,897	88,213	12,070	26,319	51,509	121,199	591,947	1,033,893	234,207	800,933		
Codling	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
Ling	31,937	40,784	36,356	51,172	4,149	7,303	65	126	40,570	58,601	18	7	..	..	1	2	8	20	72,515	9,403	8,115	25,081		
Torsk (Tusk)	..	384	2,853	2,794	4	3	..	..	2,857	2,797	..	..	..	..	..	..	..	..	3,227	3,181	90	219		
Saithe (Coal Fish)	67,501	58,146	3,504	2,526	2,094	1,856	1,437	1,307	7,033	5,689	178	258	308	607	34	59	520	924	75,056	64,739	17,953	36,075		
Haddock, ex. La.	673,527	1,094,373	97	190	159,578	325,670	35,030	60,735	194,705	386,595	..	..	209	427	9	12	218	439	898,450	1,451,407	477,310	1,443,080		
Large Medium Small	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
Whiting	56,412	73,845	..	19,385	20,588	3,323	3,526	22,708	24,114	..	..	..	..	..	6	2	6	2	79,156	97,961	72,167	198,579		
Conger Eels	137	117	302	390	143	73	143	518	847	..	..	..	..	7	17	56	219	63	718	731	731			
Gurnards	5,766	3,267	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5,766	3,267	10,905	11,597		
Catfish	15,947	15,931	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	16,632	18,017	8,615	18,344		
Monks (Anglers)	9,500	8,654	..	..	..	..	..	..	..	..	..	..	..	..	12	13	47	55	9,638	8,763	5,984	9,897		
Hake	8,504	16,895	..	..	..	..	..	..	..	..	..	..	..	..	36	35	127	127	8,543	16,974	372	1,295		
Total of Round Fish	1,262,371	1,962,841	69,247	102,942	277,034	514,635	76,459	125,404	410,820	742,931	2,728	6,844	37,546	89,497	12,224	26,661	52,498	123,002	1,731,689	2,825,824	836,449	2,516,750		



TABLE B.—No. II.—FISH LANDED.—STATEMENT of the Total Quantity and Value of the different kinds of White and Shell-Fish landed in **Orkney and Shetland** during the Year 1919.

DESCRIPTION OF FISH.	TRAWLS.		LINES.						NETS.						1919. Grand Total Quantity and Value.		1918. Grand Total Quantity and Value.			
	Steam.		Motor.		Sail.		TOTAL.		Steam.		Motor.		Sail.		TOTAL.					
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Cwt.	£	Cwt.	£
PELAGIC FISH.																				
Herrings . . . . .	..	..	..	..	..	..	Cwt.	£	191,848	82,022	110,504	44,719	211,163	72,032	513,515	198,773	513,515	198,773	97,650	49,040
Sprats . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Sparlings . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Mackerel . . . . .	..	..	..	..	..	..	..	..	774	344	476	157	525	117	1,775	618	1,775	618	1,452	488
Total of Pelagic Fish	..	..	..	..	..	..	..	..	192,622	82,368	110,980	44,876	211,688	72,149	515,280	199,391	515,280	199,391	99,102	49,528
DEMERSAL FISH.																				
(a) ROUND.																				
Cod . . . . .	..	..	..	..	..	..	370	372	3,915	5,524	4,964	7,966	9,249	13,862	..	..	9,249	13,862	7,876	15,753
Codling . . . . .	..	..	..	..	..	..	538	569	2,362	1,990	1,084	939	3,984	3,498	..	..	3,984	3,498	1,030	1,414
Ling . . . . .	..	..	..	..	..	..	153	132	702	483	267	189	1,122	804	..	..	1,122	804	588	717
Torsk (Tusk) . . . . .	..	..	..	..	..	..	267	121	592	213	1,441	742	2,230	1,076	..	5	2,330	1,081	6,246	3,966
Saithe (Coal Fish) . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Haddock, ex. La. . . . .	..	..	..	..	..	..	..	..	16,124	34,948	8,381	14,865	24,505	49,813	..	..	24,505	49,813	23,651	60,655
" " Large . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" " Medium . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" " Small . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Whiting . . . . .	..	..	..	..	..	..	..	..	645	627	646	528	1,291	1,153	..	..	1,291	1,153	1,003	1,962
Conger Eels . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Gurnards . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Catfish . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Monks (Anglers) . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hake . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total of Round Fish	1,328	1,194	24,270	43,785	16,791	25,232	42,389	70,211	..	..	..	..	100	5	100	5	42,480	70,216	41,015	84,522











TABLE B.—No. II.—FISH LANDED.—STATEMENT of the Total Quantity and Value of the different kinds of White and Shell-Fish landed in **Scotland** during the Year 1919.

DESCRIPTION OF FISH.	TRAWLS.			LINES.						NETS.						1919. Grand Total Quantity and Value.		1918. Grand Total Quantity and Value.	
	Steam, &c.		Value.	Steam.		Motor.		Sail.		TOTAL.		Steam.		Motor.					
	Quantity.			Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	Cwt.	£	Cwt.	£	Cwt.	£	Cwt.	£	Cwt.	£	Cwt.	£	Cwt.	£	Cwt.	£	Cwt.	£	Cwt.
PELAGIC FISH.																			
Herrings	1,029	857	29	13	..	..	..	..	..	29	13	1,751,780	1,005,785	152,000	955,289	450,648	214,615	3,734,428	2,235,080
Sprats	..	..	..	..	..	..	..	..	..	..	..	..	..	63	13	50,831	10,314	50,894	10,327
Sardines	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	256	983	256	983
Mackerel	226	237	..	..	2,101	1,182	2,968	2,247	5,069	3,429	10,359	10,359	22,118	13,405	3,629	1,757	42,600	22,581	
Total of Pelagic Fish	1,255	1,094	29	13	2,101	1,182	2,968	2,247	5,068	3,442	1,076,144	1,076,433	154,818	968,767	511,504	227,069	3,828,178	2,272,580	
DEMERSAL FISH.																			
(a) Round.																			
Cod	393,876	651,704	36,796	67,915	103,748	194,087	51,410	84,840	191,954	346,822	2,542	6,567	41,600	96,932	15,251	33,261	60,393	136,760	
Coaling	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Ling	32,080	41,040	10,570	59,152	8,315	12,696	3,661	5,004	52,546	76,852	7	18	48	91	1	2	56	111	
Torsk (Tusk)	371	383	3,191	3,094	759	550	479	384	4,429	4,008	..	..	..	..	..	..	..	..	..
Saithe (Coal Fish)	67,821	53,620	6,580	9,628	10,340	10,619	6,735	4,448	25,655	24,669	178	258	11,617	9,812	1,728	1,869	13,523	11,939	
Haddock, ex. l.a.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" " Large Medium Small	674,972	1,096,210	107	215	176,172	361,806	52,474	87,015	228,753	448,566	..	..	..	209	427	9	12	218	439
Whiting	56,585	74,910	6,532	12,472	4,806	9,538	5,733	7,396	27,004	32,913	..	..	..	..	6	2	6	2	84,205
Conger Eels	233	286	..	..	..	..	..	..	..	..	..	..	..	12	20	56	219	68	239
Gurnard	5,783	3,277	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Catfish	15,347	15,931	4	7	878	1,477	347	550	1,229	2,031	..	..	..	35	49	12	13	47	55
Monks (Anglers)	9,528	8,700	8	7	11	12	..	..	..	..	..	..	..	91	92	36	35	128	128
Hake	8,909	17,581	280	752	140	310	14	..	..	..	..	..	..	810	2,569	..	..	810	2,569
Total of Round Fish	1,265,495	1,967,744	96,068	153,239	327,040	616,721	123,504	193,463	546,612	962,874	2,728	6,844	54,422	100,985	17,090	35,413	74,240	152,242	1,890,356
																		986,823	2,859,175



TABLE B.—III.

SUMMARY of the Means of Capture and Fish Landed for the Years from 1889 to 1919 inclusive.

Year.	Number of Vessels.*	Value of Boats and Gear.	Total Catch. (Excluding Shell-fish).		Number of Fishermen and Shore-workers.
			Quantity.	Value.	
		£	Cwts.	£	
1889 . .	14,714	1,603,307	5,589,239	1,454,175	...
1890 . .	14,352	1,590,636	5,864,488	1,623,346	...
1891 . .	13,933	1,637,305	5,434,206	1,762,494	...
1892 . .	13,862	1,756,800	5,436,138	1,595,555	...
1893 . .	13,491	1,785,365	6,208,018	1,624,896	...
1894 . .	13,297	1,796,530	6,188,774	1,565,821	...
1895 . .	13,098	1,820,429	6,107,044	1,763,991	...
1896 . .	12,040	1,873,870	6,146,738	1,571,803	88,242
1897 . .	11,633	1,922,685	5,001,672	1,627,754	81,549
1898 . .	11,576	2,029,384	6,557,768	1,879,866	86,964
1899 . .	11,245	2,383,776	5,145,076	2,189,933	84,538
1900 . .	11,275	2,711,877	5,369,265	2,325,994	82,809
1901 . .	11,201	3,001,301	6,385,170	2,238,310	83,905
1902 . .	11,097	3,212,455	6,866,028	2,502,668	85,367
1903 . .	11,008	3,448,168	6,518,808	2,401,287	84,553
1904 . .	10,891	3,431,284	7,947,829	2,231,102	86,621
1905 . .	10,581	3,304,695	7,856,310	2,649,148	88,201
1906 . .	10,554	4,117,549	7,593,369	2,977,593	92,305
1907 . .	10,365	4,857,816	9,018,153	3,149,127	94,783
1908 . .	10,078	5,223,149	8,645,252	2,512,162	92,857
1909 . .	9,889	5,291,533	7,423,185	2,889,107	92,060
1910 . .	9,724	5,439,857	8,709,655	3,100,387	90,813
1911 . .	9,543	5,628,087	8,511,974	3,060,574	89,152
1912 . .	9,290	5,777,102	8,587,106	3,588,584	89,715
1913 . .	8,991	6,035,952	7,828,350	3,925,360	90,710
1914 . .	8,869	6,297,745	7,440,321	3,143,507	87,119
1915 . .	4,653	1,668,765	2,319,390	2,051,171	35,461
1916 . .	4,650	1,827,346	3,412,030	3,147,675	37,009
1917 . .	4,609	1,902,167	3,079,768	3,645,015	35,746
1918 . .	4,614	3,038,592	3,313,228	5,991,693	37,624
1919 . .	6,534	9,223,456	5,968,866	6,063,739	60,159

\* Although the number of vessels shows a steady decrease there was a marked increase in the catching power, owing to the gradual adoption of steam and motor propulsion.



TABLE C.

FISH USED IN A FRESH STATE.—Table showing the Estimated Quantity of each Species of Fish consumed fresh in Scotland, or dispatched from Scotland in a fresh state, in the Year 1919.

Description of Fish.	1919. Quantity.	1918. Quantity.
	Cwts.	Cwts.
Herrings. . . . .	869,879	1,064,587
Sprats . . . . .	32,794	61,791
Sparlings . . . . .	256	232
Mackerel . . . . .	45,317	57,387
Cod and Codlings . . . . .	570,127	269,121
Ling . . . . .	45,761	17,778
Torsk (Tusk) . . . . .	4,023	1,130
Saithe . . . . .	81,075	38,403
Haddocks . . . . .	687,900	427,953
Whittings . . . . .	55,395	66,861
Conger Eels . . . . .	13,964	32,384
Gurnards . . . . .	6,109	11,788
Catfish . . . . .	16,623	8,616
Monks . . . . .	9,675	5,986
Hake . . . . .	10,153	6,202
Squids . . . . .	20	9
Turbot . . . . .	3,153	1,631
Halibut . . . . .	44,184	8,244
Lemon Soles . . . . .	18,155	9,741
Flounders . . . . .	2,934	2,802
Plaice . . . . .	68,553	41,630
Brill . . . . .	520	55
Dabs . . . . .	7,127	9,950
Whitches and Megrimms . . . . .	12,395	3,529
Skates and Rays . . . . .	81,304	51,566
Unclassified kinds . . . . .	8,833	11,893
Total . . . . .	2,696,229	2,211,269

TABLE D.—No. I.

FISH CURED.—RETURN showing the Quantity of each Species of Fish Cured, and the Mode of Cure, in the Year 1919.

No.	DISTRICTS.	HERRINGS.					
		Barrels Gutted.	Barrels Un-gutted.	Barrels Kipperd.	Barrels of Bloaters or Reds.	Barrels Tinned.	Total Number of Barrels.
EAST COAST.							
1	Eyemouth . . . . .	7,360	708	59,119	696	6,884	74,767
2	Leith . . . . .	180	..	9,334	761	..	10,275
3	Anstruther . . . . .	24	..	266	452	..	742
4	Montrose . . . . .	10	..	15	35	286	346
5	Stonehaven . . . . .	..	..	470	..	..	470
6	Aberdeen . . . . .	905	414	31,559	12,030	20,484	65,392
7	Peterhead . . . . .	108,221	4,200	49,604	..	1,836	163,861
8	Fraserburgh . . . . .	182,903	22,675	34,573	847	10,507	251,505
9	Banff . . . . .	6,652	..	2,602	..	..	9,254
10	Buckie . . . . .	15,938	693	9,821	160	..	26,612
11	Findhorn . . . . .	1,870	500	170	..	..	2,540
12	Cromarty . . . . .	..	..	..	..	..	..
13	Helmsdale . . . . .	134	..	..	..	..	134
14	Lybster . . . . .	70	..	378	..	..	448
15	Wick . . . . .	102,272	3,542	24,677	..	..	130,491
East Coast Totals carried down		426,539	32,732	222,588	14,981	39,997	736,837
Orkney and Shetland.							
16	Orkney . . . . .	1,811	..	..	..	..	1,811
17	Shetland . . . . .	154,652	12,979	11,584	..	..	179,215
Orkney and Shetland Totals carried down		156,463	12,979	11,584	..	..	181,026
WEST COAST.							
18	Stornoway . . . . .	24,259	14,792	33,679	..	..	72,730
19	Barra . . . . .	8,178	395	..	..	..	8,573
20	Loch Broom . . . . .	1,655	181	..	..	..	1,836
21	Loch Carron and Skye . . . . .	1,833	82	2,468	..	..	4,383
22	Fort-William . . . . .	1,405	374	7,940	..	..	9,719
23	Campbeltown . . . . .	514	..	301	..	..	815
24	Inveraray . . . . .	811	..	46	..	..	857
25	Rothsay . . . . .	240	..	230	20	..	490
26	Greenock . . . . .	2,304	..	13,772	96	..	16,172
27	Ballantrae . . . . .	16	..	432	..	..	448
West Coast Totals carried down		41,215	15,824	58,868	116	..	116,023
Totals brought down.							
East Coast		426,539	32,732	222,588	14,981	39,997	736,837
Orkney and Shetland		156,463	12,979	11,584	..	..	181,026
West Coast		41,215	15,824	58,868	116	..	116,023
Grand Totals for 1919		624,217	61,535	293,040	15,097	39,997	1,033,886
Grand Totals for 1918		31,031	45,649	256,968	22,037	17,550	373,235
Increase in 1919		593,186	15,886	36,072	..	22,447	660,651
Decrease in 1919		..	..	..	6,940	..	..

Note 1.—No vessels were fitted out for curing at sea during the year.

2.—The figures above represent the quantities pickled "bungpacked," i.e. as finally packed. Corresponding particulars in "seastick" state, i.e. before herrings have "pined" will be found in Appendix D.—No. II.

3.—Included above are 5,757 crans kippers, and 4,791 crans reds, manufactured from herrings imported from England, and 10,017 crans kippers manufactured from herrings imported in a fresh state from Norway.

TABLE D.—No. I.—*continued*.

FISH CURED.—RETURN showing the Quantity of each Species of Fish Cured, and the Mode of Cure, in the year 1919.

SPECIES OTHER THAN HERRINGS.						
Description of Fish.	Dried.	Smoked.	Pickled.	Tinned.	Total 1919.	Total 1918.
	Cwts.	Cwts.	Cwts.	Cwts.	Cwts.	Cwts.
Sprats . . .	..	..	18,100	..	18,100	..
Mackerel . . .	..	364	408	710	1,482	2,004
Cod and Codling	4,334	31,047	..	..	35,381	1,989
Ling . . .	12,967	..	..	..	12,967	518
Tusk . . .	259	..	..	..	259	30
Saithe . . .	1,588	10,580	..	..	12,168	2,326
Haddocks . . .	2,143	98,547	..	6,260	106,950	55,584
Whittings . . .	..	14,405	..	..	14,405	5,646
Skate . . .	267	..	..	..	267	250
Total . . .	21,558	154,943	18,508	6,970	201,979	68,347

Note 1.—In addition to the above there were dried in Scotland 46,894 cwts. of cod, 778 cwts. of ling, 126 cwts. of tusk, 779 cwts. of saithe, and 742 cwts. of haddocks imported wet-salted, a further total of 49,319 cwts.

2.—The figures given above represent the weight after cure.



TABLE D.—No. II.

HERRINGS CURED.—STATEMENT showing the Numbers of \*Barrels of Herrings Cured, Gutted and Ungutted, on the East and West Coasts of Scotland, for the Hundred and nine years ended 31st December 1919.

Year ended	East Coast (with Orkney and Shetland).			West Coast.			GRAND TOTAL.
	Gutted.	Ungutted, Kipperd, &c.	Total.	Gutted.	Ungutted, Kipperd, &c.	Total.	
6th April 1811	2,008 $\frac{1}{2}$	6,630	8,638 $\frac{1}{2}$	62,186	19,110	81,296	89,934 $\frac{1}{2}$
" 1812	4,325 $\frac{1}{2}$	10,332	14,657 $\frac{1}{2}$	65,922	24,518	90,440	105,097 $\frac{1}{2}$
" 1813	9,179	20,950 $\frac{1}{2}$	30,129 $\frac{1}{2}$	76,561 $\frac{3}{4}$	31,025 $\frac{1}{2}$	107,587 $\frac{1}{4}$	137,716 $\frac{3}{4}$
" 1814	9,503	46,800 $\frac{1}{2}$	56,303 $\frac{1}{2}$	37,969	5,773	43,742	100,045 $\frac{1}{2}$
" 1815	24,314	36,827	61,141	76,021 $\frac{1}{4}$	7,756	83,777 $\frac{1}{4}$	144,918 $\frac{1}{4}$
" 1816	55,411 $\frac{1}{2}$	18,416 $\frac{1}{4}$	73,828	73,292 $\frac{1}{2}$	2,578 $\frac{1}{4}$	75,870 $\frac{3}{4}$	149,698 $\frac{3}{4}$
" 1817	90,710 $\frac{1}{2}$	26,252 $\frac{1}{2}$	116,963	60,581 $\frac{1}{2}$	3,233 $\frac{1}{2}$	63,815	180,778
" 1818	118,594 $\frac{3}{4}$	8,287 $\frac{1}{4}$	126,882	76,765	4,491 $\frac{1}{2}$	81,256 $\frac{1}{2}$	208,138 $\frac{1}{2}$
" 1819	221,959 $\frac{1}{2}$	22,158	244,117 $\frac{1}{2}$	75,197 $\frac{1}{2}$	6,441	81,638 $\frac{1}{2}$	325,756
" 1820	267,556 $\frac{1}{2}$	27,391 $\frac{1}{2}$	294,948	72,629 $\frac{1}{2}$	4,512	77,141 $\frac{1}{2}$	372,089 $\frac{1}{2}$
" 1821	318,473 $\frac{1}{2}$	23,909 $\frac{1}{4}$	342,382 $\frac{3}{4}$	88,626 $\frac{1}{2}$	2,613	91,239 $\frac{1}{2}$	433,622 $\frac{1}{4}$
" 1822	229,070	12,808 $\frac{3}{4}$	241,878 $\frac{3}{4}$	56,342 $\frac{1}{2}$	1,328	57,670 $\frac{1}{2}$	299,549 $\frac{1}{4}$
" 1823	183,687	15,256 $\frac{1}{4}$	198,943 $\frac{1}{4}$	34,211	245 $\frac{1}{2}$	34,456 $\frac{1}{2}$	233,399 $\frac{1}{2}$
" 1824	272,340 $\frac{1}{2}$	32,402	304,742 $\frac{1}{2}$	52,792	802 $\frac{1}{4}$	53,594 $\frac{1}{4}$	358,336 $\frac{3}{4}$
" 1825	227,667	28,849 $\frac{3}{4}$	256,516 $\frac{3}{4}$	64,623	593	65,216	321,732 $\frac{3}{4}$
" 1826	289,101	31,703 $\frac{1}{4}$	320,804 $\frac{1}{4}$	42,602	121	42,723	363,527 $\frac{1}{4}$
" 1827	211,042 $\frac{3}{4}$	22,241 $\frac{1}{2}$	233,284 $\frac{1}{4}$	43,231	117	43,348	276,632 $\frac{1}{4}$
" 1828	287,906 $\frac{1}{2}$	37,882 $\frac{1}{2}$	325,789	45,632	2,039 $\frac{1}{2}$	47,671 $\frac{1}{2}$	373,460 $\frac{1}{2}$
" 1829	249,365 $\frac{1}{2}$	41,047 $\frac{1}{4}$	290,412 $\frac{3}{4}$	47,525	945	48,470	338,882 $\frac{3}{4}$
" 1830	216,427 $\frac{1}{2}$	35,226	251,653 $\frac{1}{2}$	59,494	639	60,133	311,786 $\frac{1}{2}$
" 1831	315,479	51,609 $\frac{3}{4}$	367,088 $\frac{3}{4}$	46,631	855	47,486	414,574 $\frac{3}{4}$
" 1832	259,197 $\frac{1}{2}$	36,183 $\frac{1}{4}$	295,381	49,216 $\frac{1}{4}$	3,167	52,383 $\frac{1}{4}$	347,764 $\frac{1}{4}$
5th April 1833	267,928 $\frac{1}{2}$	45,564 $\frac{3}{4}$	313,493 $\frac{1}{4}$	77,144	573	77,717	391,210 $\frac{1}{4}$

\* The figures in this table, so far as relating to pickled herrings, gutted or ungutted, represent the numbers of barrels of "sea sticks."  
*Vide* Note 2 to Appendix D.—No. I. (p. 75).

TABLE D.—No. II.—continued.

Year ended	East Coast (with Orkney and Shetland).			West Coast.		GRAND TOTAL.
	Gutted.	Ungutted, Kippered, &c.	Total.	Gutted.	Ungutted, Kippered, &c.	Total.
5th April 1834	315,159	56,374 <sup>2</sup> <sub>4</sub>	371,533 <sup>2</sup> <sub>4</sub>	64,427 <sup>1</sup> <sub>2</sub>	137	64,564 <sup>1</sup> <sub>2</sub>
1835	166,539 <sup>1</sup> <sub>2</sub>	33,339 <sup>1</sup> <sub>2</sub>	199,879	45,091 <sup>1</sup> <sub>2</sub>	633	45,724 <sup>1</sup> <sub>2</sub>
1836	343,693 <sup>1</sup> <sub>2</sub>	68,891 <sup>1</sup> <sub>2</sub>	412,585 <sup>1</sup> <sub>2</sub>	46,554 <sup>1</sup> <sub>2</sub>	479	47,033 <sup>1</sup> <sub>2</sub>
1837	229,371	71,449 <sup>1</sup> <sub>2</sub>	300,820 <sup>1</sup> <sub>2</sub>	54,859	1,892 <sup>1</sup> <sub>2</sub>	56,751 <sup>1</sup> <sub>2</sub>
1838	307,625	82,634 <sup>1</sup> <sub>2</sub>	390,259 <sup>1</sup> <sub>2</sub>	68,990 <sup>1</sup> <sub>2</sub>	2,374 <sup>1</sup> <sub>2</sub>	71,365
1839	308,581	119,489 <sup>1</sup> <sub>2</sub>	428,070 <sup>1</sup> <sub>2</sub>	66,046 <sup>1</sup> <sub>2</sub>	1,672 <sup>1</sup> <sub>2</sub>	67,719
1840	345,074 <sup>1</sup> <sub>2</sub>	103,160	448,234 <sup>1</sup> <sub>2</sub>	54,208 <sup>1</sup> <sub>2</sub>	343	54,551 <sup>1</sup> <sub>2</sub>
1841	334,539	78,225 <sup>1</sup> <sub>2</sub>	412,764 <sup>1</sup> <sub>2</sub>	87,562 <sup>1</sup> <sub>2</sub>	3,402 <sup>1</sup> <sub>2</sub>	90,965
1842	404,502 <sup>1</sup> <sub>2</sub>	116,675 <sup>1</sup> <sub>2</sub>	521,178	78,755 <sup>1</sup> <sub>2</sub>	2,183 <sup>1</sup> <sub>2</sub>	80,939
1843	376,374	118,755 <sup>1</sup> <sub>2</sub>	495,129 <sup>1</sup> <sub>2</sub>	61,568 <sup>1</sup> <sub>2</sub>	1,627	63,195 <sup>1</sup> <sub>2</sub>
1844	384,729	105,927 <sup>1</sup> <sub>2</sub>	490,656 <sup>1</sup> <sub>2</sub>	81,643	4,776	86,419
1845	305,461 <sup>1</sup> <sub>2</sub>	72,649 <sup>1</sup> <sub>2</sub>	378,110 <sup>1</sup> <sub>2</sub>	80,836	901	81,737
1846	343,927	82,607 <sup>1</sup> <sub>2</sub>	426,534 <sup>1</sup> <sub>2</sub>	64,056	3,753 <sup>1</sup> <sub>2</sub>	67,809 <sup>1</sup> <sub>2</sub>
1847	343,009 <sup>1</sup> <sub>2</sub>	137,296 <sup>1</sup> <sub>2</sub>	480,306 <sup>1</sup> <sub>2</sub>	67,613	11,263	78,876
1848	323,471 <sup>1</sup> <sub>2</sub>	135,479	458,950 <sup>1</sup> <sub>2</sub>	46,636 <sup>1</sup> <sub>2</sub>	9,570	56,206 <sup>1</sup> <sub>2</sub>
1849	337,450	155,654 <sup>1</sup> <sub>2</sub>	493,104 <sup>1</sup> <sub>2</sub>	52,473	6,981	59,454
1850	427,138	152,530	579,668	77,171 <sup>1</sup> <sub>2</sub>	25,029 <sup>1</sup> <sub>2</sub>	102,201 <sup>1</sup> <sub>2</sub>
1851	320,493	129,532 <sup>1</sup> <sub>2</sub>	450,025 <sup>1</sup> <sub>2</sub>	67,694	21,134	78,828
1852	348,573	109,933	458,506	68,660 <sup>1</sup> <sub>2</sub>	36,220 <sup>1</sup> <sub>2</sub>	104,881
1853	331,055 <sup>1</sup> <sub>2</sub>	89,355	420,410 <sup>1</sup> <sub>2</sub>	44,623 <sup>1</sup> <sub>2</sub>	13,903	58,526 <sup>1</sup> <sub>2</sub>
1854	482,017	165,459 <sup>1</sup> <sub>2</sub>	647,476 <sup>1</sup> <sub>2</sub>	78,350	28,431 <sup>1</sup> <sub>2</sub>	106,781 <sup>1</sup> <sub>2</sub>
1855	410,332	132,977 <sup>1</sup> <sub>2</sub>	543,309 <sup>1</sup> <sub>2</sub>	48,247 <sup>1</sup> <sub>2</sub>	31,207 <sup>1</sup> <sub>2</sub>	79,455
1856	505,481 <sup>1</sup> <sub>2</sub>	136,687 <sup>1</sup> <sub>2</sub>	642,169 <sup>1</sup> <sub>2</sub>	77,175 <sup>1</sup> <sub>2</sub>	32,631	109,806 <sup>1</sup> <sub>2</sub>
1857	396,650	92,400 <sup>1</sup> <sub>2</sub>	489,050 <sup>1</sup> <sub>2</sub>	69,755 <sup>1</sup> <sub>2</sub>	32,492 <sup>1</sup> <sub>2</sub>	102,248
1858	390,775	59,712 <sup>1</sup> <sub>2</sub>	450,487 <sup>1</sup> <sub>2</sub>	74,447 <sup>1</sup> <sub>2</sub>	25,763 <sup>1</sup> <sub>2</sub>	100,211
1859	410,524 <sup>1</sup> <sub>2</sub>	111,440 <sup>1</sup> <sub>2</sub>	521,965 <sup>1</sup> <sub>2</sub>	59,868 <sup>1</sup> <sub>2</sub>	23,350	83,218 <sup>1</sup> <sub>2</sub>
1860	308,518 <sup>1</sup> <sub>2</sub>	55,584	364,102 <sup>1</sup> <sub>2</sub>	72,541	20,487	93,028
	424,201 <sup>1</sup> <sub>2</sub>	103,086 <sup>1</sup> <sub>2</sub>	527,287 <sup>1</sup> <sub>2</sub>	71,894	37,891 <sup>1</sup> <sub>2</sub>	109,785 <sup>1</sup> <sub>2</sub>
						436,098 <sup>1</sup> <sub>2</sub>
						245,603 <sup>1</sup> <sub>2</sub>
						459,618 <sup>1</sup> <sub>2</sub>
						357,571 <sup>1</sup> <sub>2</sub>
						461,624 <sup>1</sup> <sub>2</sub>
						495,789 <sup>1</sup> <sub>2</sub>
						502,786
						503,729 <sup>1</sup> <sub>2</sub>
						602,117
						558,325 <sup>1</sup> <sub>2</sub>
						577,075 <sup>1</sup> <sub>2</sub>
						459,847 <sup>1</sup> <sub>2</sub>
						494,344
						559,182 <sup>1</sup> <sub>2</sub>
						515,157
						552,558 <sup>1</sup> <sub>2</sub>
						681,869 <sup>1</sup> <sub>2</sub>
						528,853 <sup>1</sup> <sub>2</sub>
						563,937
						478,937
						754,257 <sup>1</sup> <sub>2</sub>
						622,764 <sup>1</sup> <sub>2</sub>
						751,975 <sup>1</sup> <sub>2</sub>
						591,298 <sup>1</sup> <sub>2</sub>
						550,698 <sup>1</sup> <sub>2</sub>
						605,184
						457,130 <sup>1</sup> <sub>2</sub>
						637,073 <sup>1</sup> <sub>2</sub>

TABLE D.—No. II.—continued.

Year ended	East Coast (with Orkney and Shetland).			West Coast.			Grand Total.
	Gutted.	Ungutted, Kippered, &c.	Total.	Gutted.	Ungutted, Kippered, &c.	Total.	
31st December	447,931½	97,207	545,138½	71,241½	34,336½	105,578	650,716½
"	536,602½	88,911	625,513½	119,257½	52,685	171,942½	797,456
"	445,596½	75,511½	521,108½	61,396½	26,810	88,206½	609,314½
"	378,752	88,107½	466,859½	99,737½	42,889	142,626½	609,486½
"	374,424	73,814½	448,238½	95,920½	57,207	153,127½	601,366
"	398,358	72,420½	470,778½	99,396½	74,431	173,827½	644,605½
"	492,173½	81,978½	574,152½	139,547½	90,392	229,939½	804,090
"	363,922½	62,906	426,828½	81,546	129,886½	211,432½	638,260½
"	395,500½	61,809½	457,310½	93,330½	124,502½	217,832½	675,143
"	508,805½	98,318	607,123½	148,254	77,783	226,037	833,160½
"	585,172	94,178	679,350	83,317½	62,808½	146,125½	825,475½
"	623,443½	62,341	685,784½	48,260	39,815	88,075	773,859½
"	710,376½	96,983½	807,360	86,525½	45,348	131,873½	939,233½
"	789,345½	77,489½	866,835½	97,657	36,068½	133,725½	1,000,561
"	774,293½	67,729	842,022½	90,529	40,428½	100,957½	942,980
"	454,164	59,230	513,394	32,074½	52,729	84,803½	598,197½
"	618,116½	65,529½	683,646	98,754½	65,318½	164,072½	847,718
"	702,433½	70,927½	773,361	69,122½	63,284½	132,407	905,768
"	563,754	62,833½	626,587½	92,237	122,971½	215,208½	841,796
"	1,096,953½	104,151½	1,201,105	127,245	145,250½	272,495½	1,473,600½
"	830,751½	73,602½	904,353½	84,346½	122,455	206,801½	1,111,155½
"	879,243½	98,983	978,226½	101,512	203,235	304,747	1,282,973½
"	960,428½	87,477½	1,047,905½	72,658½	148,848½	221,506½	1,269,412½
"	1,323,989½	132,061½	1,456,050½	128,223½	112,803	241,026½	1,697,077½
"	1,244,259	74,723½	1,318,982½	108,190	145,779½	253,969½	1,572,952½
"	1,017,152	125,287½	1,142,439½	76,211	93,572½	169,783½	1,312,223½
"	962,116	127,588	1,089,704	101,937½	111,782½	213,720½	1,303,424½
"	790,458	82,155½	872,613½	116,542	129,717	246,259	1,118,872½
"	1,071,686	112,171	1,183,857	105,417	108,233	213,650	1,397,507



TABLE D.—No. II.—continued.

Year ended	East Coast (with Orkney and Shetland).			West Coast.			GRAND TOTAL.
	Gutted.	Ungutted, Kipperd, &c.	Total.	Gutted.	Ungutted, Kipperd, &c.	Total.	
31st December 1890	1,042,089	81,218½	1,123,307½	142,340½	38,955	181,295½	1,304,603
1891	797,219	61,427	858,646	208,024	59,402	267,426	1,126,072
1892	1,012,452	82,267	1,094,719	125,299	37,924	163,223	1,257,942
1893	1,177,365	110,236	1,287,601	90,977	30,960¼	121,937¼	1,409,538¼
1894	1,312,926	98,783	1,411,709	91,489	14,879	106,368	1,518,077
1895	1,314,225	79,695	1,393,920	114,902	19,312	134,214	1,528,134
1896	1,232,549	101,098	1,333,647	132,234	26,035	158,269	1,491,916
1897	732,454	72,457	804,911	143,319	41,212	184,531	989,442
1898	1,500,533	92,883½	1,593,416½	174,743	37,188	211,931	1,805,347
1899	912,841	71,512	984,353	154,768	36,534	191,302	1,175,655
1900	968,077	98,673	1,066,750	156,522	32,333	188,855	1,255,605
1901	1,334,010	118,173	1,452,183	109,056	44,646	153,702	1,605,885
1902	1,507,138	125,933	1,633,071	123,437	46,651	170,088	1,803,159
1903	1,331,664	138,949	1,470,613	105,654	42,543	148,197	1,618,810
1904	1,737,345	170,510	1,907,855	102,548	52,571	155,119	2,062,974
1905	1,766,734	164,098	1,930,832	112,156	68,613	180,769	2,111,601
1906	1,679,947	166,011	1,845,958	116,343	35,561	151,904	1,997,862
1907	2,181,017	189,892	2,370,909	147,945	59,414	207,359	2,578,268
1908	1,787,835	183,495	1,971,330	163,931	64,808	228,739	2,200,069
1909	1,507,914	180,740	1,688,654	148,410	53,201	201,611	1,890,265
1910	1,934,320	211,236	2,145,556	145,628	37,690	183,318	2,328,874
1911	1,667,432	207,335	1,874,767	139,272	32,708	171,980	2,046,747
1912	1,660,972	178,116	1,839,088	148,414	34,945	183,359	2,022,447
1913	1,407,323	172,591	1,579,914	253,804	52,878	306,682	1,886,596
1914	1,176,361	185,854	1,362,215	185,925	66,387	252,312	1,614,527
1915	28,597	61,502	90,099	44,852	40,518	85,370	175,469
1916	322,398	149,043	471,441	89,709	72,847	162,556	633,997
1917	109,976	178,770	288,746	120,743	67,566	188,309	477,055
1918	25,942	268,641	294,583	11,750	80,748	92,498	387,081
1919	729,612	346,272	1,075,884	47,057	75,634	122,691	1,198,575

TABLE E.—No. I.

CURED FISH BRANDED AND GRADED.—RETURN showing the Numbers of Barrels of Cured Herrings Crown Branded, or Graded under the Government Guarantee Scheme, distinguishing the different Brands and Grades, and the Amount of Fees collected, during the Year 1919.

No.	DISTRICTS.	La. Full.	Full.	Mat. Full.	Mattie. (CROWN B BRANDED).	La. Spent.	Spent.	Total.	Fees Received.	DISTRICTS.	No.
1	Eyemouth		759½	1,853	2,112½	8½	37	4,846	£	Eyemouth.	1
2	Leith		7	8	6	..	..	21	15	Leith.	2
3	Aberdeen	..	85½	199	96	..	..	402½	4	Aberdeen.	3
4	Peterhead	..	13,835½	23,230½	22,405	2,168	26	62,240	6	Peterhead.	4
5	Fraserburgh	575½	24,443	34,254½	25,921	2,910½	35	88,071	8	Fraserburgh.	5
6	Banff	502	2,006	3,025½	1,174½	191½	..	6,397½	0	Banff.	6
7	Buckie	..	3,119	5,776½	3,395	118	22	12,430½	6	Buckie.	7
8	Findhorn	..	380½	738	568	1	..	1,687½	3	Findhorn.	8
9	Wick	..	11,945½	13,640½	12,609	824½	68½	39,114	2	Wick.	9
10	Shetland	2,846½	10,697	11,220	1,840½	9,592	335½	36,531½	18	Shetland.	10
11	Stornoway	385	483	1,935	1,201	372	4	4,380	0	Stornoway.	11
	Total	4,357	67,766	95,880½	71,328½	16,261½	523	256,121½	13	Total.	
1	Eyemouth		36½	281½	355	..	71½	745½	12	Eyemouth.	1
2	Peterhead	..	34	392	626	..	..	1,052	8	Peterhead.	2
3	Fraserburgh	..	551	1,219½	2,750½	183	..	4,704	8	Fraserburgh.	3
4	Banff	..	12	119	..	..	..	131	2	Banff.	4
5	Buckie	..	172	498½	507	..	2	1,179½	3	Buckie.	5
6	Findhorn	..	..	33	104	..	..	142	2	Findhorn.	6
7	Wick	..	123½	268½	196	..	..	588	7	Wick.	7
8	Shetland	..	122½	430	39	..	..	591½	16	Shetland.	8
9	Stornoway	..	..	10	174	..	..	196	0	Stornoway.	9
	Total	12	1,051½	3,257	4,752½	183	73½	9,329½	3	Total.	

TABLE E.—No. I.—Continued.

No.	DISTRICTS.	Ls. Full.	Full.	Mat. Full.	Mattie.	Ls. Spent.	Spent	Total.	Fees Received.	DISTRICTS.	No.
1	Aberdeen	..	16	17	14	..	..	47	0 15 8	Aberdeen.	1
2	Peterhead	..	41	62	190	..	..	296	4 18 8	Peterhead.	2
3	Fraserburgh	..	717	1,541	3,107	..	..	5,365	89 8 4	Fraserburgh.	3
4	Banff	..	..	40½	25	..	..	65½	1 1 10	Banff.	4
5	Buckie	..	8½	56	266½	..	..	331	5 10 4	Buckie.	5
6	Wick	..	63½	106	37	..	..	206½	3 8 10	Wick.	6
7	Shetland.	..	91	682	69	601	..	1,443	24 1 0	Shetland.	7
8	Stornoway	..	..	..	23	..	..	23	0 7 8	Stornoway.	8
	Total	..	940	2,504½	3,731½	601	..	7,777	129 12 4	Total.	
1	Eyemouth	..	796	2,134½	2,468½	84	108½	5,591½	93 3 10	Eyemouth.	1
2	Leith	..	7	8	6	..	..	21	0 7 0	Leith.	2
3	Aberdeen	22	101½	216	110	..	..	449½	7 9 10	Aberdeen.	3
4	Peterhead	575½	13,913	23,684½	23,221	2,168	26	63,588	1,059 16 0	Peterhead.	4
5	Fraserburgh	502	25,716	37,015	31,778½	3,093½	35	98,140	1,635 13 4	Fraserburgh.	5
6	Banff	..	2,018	3,185	1,199½	191½	..	6,594	109 18 0	Banff.	6
7	Buckie	..	3,298½	6,331	4,168½	118	24	13,941	232 7 0	Buckie.	7
8	Findhorn	..	389½	776	672	1	..	1,829½	30 9 10	Findhorn.	8
9	Wick	26	12,132½	14,015	12,842	824½	68½	39,908½	665 2 10	Wick.	9
10	Shetland.	2,846½	10,910½	12,332	1,948½	10,193	335½	38,566	642 15 4	Shetland.	10
11	Stornoway	397	483	1,945	1,398	372	4	4,599	76 13 0	Stornoway.	11
	Grand Total	4,369	69,757½	101,642	79,812½	17,045½	601½	273,228	4,553 16 0	Grand Total.	



TABLE E.—No. II.

FISH EXPORTED.—RETURN showing the Total Quantity of Fish Exported to England, Ireland, the Continent, and Places out of Europe during the Year 1919.

I.—HERRINGS.						
DESCRIPTION OF FISH.	WHERE SENT.					
	Eng- land.	Ire- land.	The Continent.	Places out of Europe.	Total 1919.	Total 1918.
SCOTTISH CURED HERRINGS.	Barrels.	Barrels.	Barrels.	Barrels.	Barrels.	Barrels.
Branded and Graded . . . . .	..	..	..	..	..	..
La. Full . . . . .	..	..	4,117½	..	4,117½	..
Full . . . . .	..	..	59,410	..	59,410	..
Mat. Full . . . . .	..	..	86,756	..	86,756	..
Filling . . . . .	..	..	..	..	..	..
Mattie . . . . .	..	..	65,384½	..	65,384½	..
La. Spent . . . . .	..	..	16,238½	..	16,238½	..
Spent . . . . .	..	..	528½	..	528½	..
Total Branded and Graded	..	..	232,435	..	232,435	..
Not Branded or Graded .	1,586½	1,617	299,358½	62,552	365,114	113,284
Total Number of Barrels of Cured Herrings ex- ported . . . . .	1,586½	1,617	531,793½	62,552	597,549	..
Herrings Sprinkled or Iced	20,000	..	..	..	20,000	..
Grand Totals for 1919 . .	21586½	1,617	531,793½	62,552	617,549	..
Grand Totals for 1918 . .	40,023	15,520	6,551	23,498	..	85,592
Increase in 1919 . . . .	..	..	525,242½	39,054	531,957	..
Decrease in 1919 . . . .	18436½	13,903	..	..	..	..

II.—OTHER KINDS.					
Cod. Ling. &c., dried, cwts.	11,694	5,896	52,060	2,808	72,458
Mackerel, pickled, brls.	..	..	..	98	98
Sprats, pickled, cwts.	..	..	1,630	..	1,630

TABLE E.—No. III.

DESTINATION OF EXPORTS.—(1) STATEMENT showing the Ports or Places to which the Herrings exported to the Continent were shipped.

DESTINATION.	From East Coast.	From Orkney & Shetland.	From West Coast.	Total 1919.
	Barrels.	Barrels.	Barrels.	Barrels.
GERMANY AND THE				
BALTIC :—				
Hamburg . . .	63,606 $\frac{1}{2}$	15,252	..	78,858 $\frac{1}{2}$
Stettin . . .	64,549 $\frac{1}{2}$	32,051 $\frac{1}{2}$	4,576	101,177
Königsberg . . .	32,673	..	..	32,673
Danzig . . .	41,502	14,472	..	55,974
Memel . . .	11,001 $\frac{1}{2}$	5,047	..	16,048 $\frac{1}{2}$
Rostock . . .	954	1,621 $\frac{1}{2}$	..	2,575 $\frac{1}{2}$
Libau . . .	48,057	30,668	..	78,725
Riga . . .	10,117 $\frac{1}{2}$	1,350	..	11,467 $\frac{1}{2}$
Wyborg . . .	19,453 $\frac{1}{2}$	..	..	19,453 $\frac{1}{2}$
Revel . . .	3,292 $\frac{1}{2}$	..	..	3,292 $\frac{1}{2}$
Helsingfors . . .	20,446 $\frac{1}{2}$	1,500	..	21,946 $\frac{1}{2}$
HOLLAND :—				
Rotterdam . . .	7,861 $\frac{1}{2}$	4,806	..	12,667 $\frac{1}{2}$
Vlaardingen . . .	17,985 $\frac{1}{2}$	..	1,734	19,719 $\frac{1}{2}$
BELGIUM :—				
Antwerp . . .	14,920	..	..	14,920
Ghent . . .	185	..	..	185
Ostend . . .	7,697 $\frac{1}{2}$	..	..	7,697 $\frac{1}{2}$
SWEDEN :—				
Gothenburg . . .	261	..	..	261
Stockholm . . .	5,925	2,403	..	8,328
NORWAY :—				
Stavanger . . .	1,163	..	..	1,163
Bergen . . .	4,394	1,244 $\frac{1}{2}$	..	5,638 $\frac{1}{2}$
Christiania . . .	1,751	..	..	1,751
DENMARK :—				
Copenhagen . . .	2,624	..	..	2,624
FRANCE :—				
Fécamp . . .	7,059	..	12,341	19,400
Boulogne . . .	4,350	2,701	..	7,051
Calais . . .	6,896	1,300	..	8,196
Totals for 1919 . . .	398,726	114,416 $\frac{1}{2}$	18,651	531,793 $\frac{1}{2}$





TABLE E.—No. IV.

VALUE OF CURED FISH.—RETURN showing the estimated Value of Cured Herrings, distinguishing Herrings Branded or Graded under the Government Guarantee Scheme, as well as of Cured Cod, &c., for the Year 1919.

DISTRICTS.	VALUE OF CURED HERRINGS BRANDED OR GRADED.						
	La. Full.	Full.	Mat. Full.	Mat- tie.	La. Spent.	Spent.	Total Branded or Graded.
<b>EAST COAST.</b>	£	£	£	£	£	£	£
Eyemouth . . . . .	..	2,144	5,187	5,377	130	141	12,979
Leith . . . . .	..	..	..	..	..	..	..
Anstruther . . . . .	..	19	20	13	..	..	52
Montrose . . . . .	..	..	..	..	..	..	..
Stonehaven . . . . .	..	..	..	..	..	..	..
Aberdeen . . . . .	59	268	522	236	..	..	1,085
Peterhead . . . . .	1,554	37,542	57,943	50,916	3,360	36	151,351
Fraserburgh . . . . .	1,355	69,064	89,887	68,257	4,767	49	233,379
Banff . . . . .	..	5,447	7,769	2,629	297	..	16,142
Buckie . . . . .	..	8,879	15,414	8,988	183	33	33,497
Findhorn . . . . .	..	1,027	1,895	1,463	2	..	4,387
Cromarty . . . . .	..	..	..	..	..	..	..
Helmsdale . . . . .	..	..	..	..	..	..	..
Lybster . . . . .	..	..	..	..	..	..	..
Wick . . . . .	70	32,710	34,254	28,208	1,278	96	96,616
East Coast Totals carried down . . . . .	3,038	157,100	212,891	166,087	10,017	355	549,488
<b>Orkney and Shetland.</b>							
Orkney . . . . .	..	..	..	..	..	..	..
Shetland . . . . .	7,686	29,404	29,876	4,253	15,559	470	87,248
Orkney and Shetland Totals carried down . . . . .	7,686	29,404	29,876	4,253	15,559	470	87,248
<b>WEST COAST</b>							
Stornoway . . . . .	1,070	1,304	4,764	3,040	577	6	10,761
Barra . . . . .	..	..	..	..	..	..	..
Loch Broom . . . . .	..	..	..	..	..	..	..
Loch Carron and Skye . . . . .	..	..	..	..	..	..	..
Fort-William . . . . .	..	..	..	..	..	..	..
Campbeltown . . . . .	..	..	..	..	..	..	..
Inveraray . . . . .	..	..	..	..	..	..	..
Rothsay . . . . .	..	..	..	..	..	..	..
Greenock . . . . .	..	..	..	..	..	..	..
Ballantrae . . . . .	..	..	..	..	..	..	..
West Coast Totals carried down . . . . .	1,070	1,304	4,764	3,040	577	6	10,761
<b>Totals brought down.</b>							
East Coast . . . . .	3,038	157,100	212,891	166,087	10,017	355	549,488
Orkney and Shetland . . . . .	7,686	29,404	29,876	4,253	15,559	470	87,248
West Coast . . . . .	1,070	1,304	4,764	3,040	577	6	10,761
Grand Totals . . . . .	11,794	187,808	247,531	173,380	26,153	831	647,497

TABLE E.—

VALUE OF CURED FISH.—RETURN showing the estimated Value  
Government Guarantee Scheme, as well

DISTRICTS.	VALUE OF CURED HERRINGS NOT BRANDED OR GRADED.					
	Gutted.	Un- gutted.	Kip- pered.	Bloaters or Reds.	Tinned.	Total not Branded or Graded.
<b>EAST COAST.</b>	£	£	£	£	£	£
Eyemouth . . . . .	816	1,476	334,547	3,719	76,097	416,655
Leith . . . . .	540	..	44,803	3,653	..	48,996
Anstruther . . . . .	11	..	1,064	1,356	..	2,431
Montrose . . . . .	30	..	76	173	2,308	2,587
Stonehaven . . . . .	..	..	..	..	..	..
Aberdeen . . . . .	1,366	1,035	157,795	63,158	122,904	346,258
Peterhead . . . . .	105,683	9,450	272,822	..	18,819	406,774
Fraserburgh . . . . .	224,622	47,618	164,222	4,235	84,056	524,753
Banff . . . . .	116	..	12,410	..	..	12,526
Buckie . . . . .	3,930	1,559	49,105	800	..	55,394
Findhorn . . . . .	64	1,250	765	..	..	2,079
Cromarty . . . . .	..	..	..	..	..	..
Helmsdale . . . . .	302	..	..	..	..	302
Lybster . . . . .	175	..	2,835	..	..	3,010
Wick . . . . .	155,908	6,200	185,070	..	..	347,178
East Coast Totals carried down . . . . .	493,563	68,588	1225,514	77,094	304,184	2,168,943
<b>Orkney and Shetland.</b>						
Orkney . . . . .	5,596	..	..	..	..	5,596
Shetland . . . . .	341,237	31,150	43,440	..	..	415,827
Orkney and Shetland Totals carried down . . . . .	346,833	31,150	43,440	..	..	421,423
<b>WEST COAST.</b>						
Stornoway . . . . .	73,725	31,063	188,602	..	..	293,390
Barra . . . . .	26,094	1,085	..	..	..	27,179
Loch Broom . . . . .	4,531	362	..	..	..	4,893
Loch Carron and Skye . . . . .	6,415	246	20,978	..	..	27,639
Fort-William . . . . .	4,215	842	64,314	..	..	69,371
Campbeltown . . . . .	1,285	..	1,791	..	..	3,076
Inveraray . . . . .	2,028	..	274	..	..	2,302
Rothsay . . . . .	720	..	1,564	96	..	2,380
Greenock . . . . .	6,912	..	93,650	461	..	101,023
Ballantrae . . . . .	52	..	2,384	..	..	2,436
West Coast Totals carried down . . . . .	125,977	33,598	373,557	557	..	533,689
<b>Totals brought down.</b>						
East Coast . . . . .	493,563	68,588	1225,514	77,094	304,184	2,168,943
Orkney and Shetland . . . . .	346,833	31,150	43,440	..	..	421,423
West Coast . . . . .	125,977	33,598	373,557	557	..	533,689
Grand Totals . . . . .	966,373	133,336	1642,511	77,651	304,184	3,124,055

No. IV.—*continued.*

of Cured Herrings, distinguishing Herrings Branded or Graded under the  
as of Cured Cod, &c., for the Year 1919.

Grand Total of Cured Herrings.	VALUE OF CURED COD, LING, &c.					Grand Total Value of Cured Fish.
	Dried.	Pickled.	Tinned.	Smoked.	Total.	
£	£	£	£	£	£	£
429,634	..	..	..	9,555	9,555	439,189
48,996	..	..	..	67,190	67,190	116,186
2,483	2,240	..	..	..	2,240	4,723
2,587	1,201	..	967	22,608	24,776	27,363
..	..	..	..	..	..	..
347,343	323,304	..	18,300	404,335	745,939	1,093,282
558,125	..	..	..	3,658	3,658	561,783
758,132	180	..	1,360	5,130	6,670	764,802
28,668	..	..	..	33,360	33,360	62,028
88,891	..	..	..	7,420	7,420	96,311
6,466	..	22,625	..	6,400	29,025	35,491
..	..	..	..	1,240	1,240	1,240
.. 302	..	..	..	3,960	3,960	4,262
3,010	..	..	..	..	..	3,010
443,794	1,090	..	..	..	1,090	444,884
<b>2,718,431</b>	<b>328,015</b>	<b>22,625</b>	<b>20,627</b>	<b>564,856</b>	<b>936,123</b>	<b>3,654,554</b>
..	..	..	..	..	..	..
5,596	..	..	..	..	..	5,596
503,075	14,214	84	..	2,024	16,322	519,397
508,671	14,214	84	..	2,024	16,322	524,993
..	..	..	..	..	..	..
304,141	1,051	648	..	582	2,281	306,422
27,179	308	..	..	..	308	27,487
4,893	911	28	..	..	939	5,832
27,639	..	..	..	..	..	27,639
69,371	..	..	..	..	..	69,371
3,076	..	..	..	..	..	3,076
2,302	..	..	..	..	..	2,302
2,380	..	..	..	..	..	2,380
101,023	1,713	..	..	..	1,713	102,736
2,436	..	..	..	..	..	2,436
544,450	3,983	676	..	582	5,241	549,691
..	..	..	..	..	..	..
2,718,431	328,015	22,625	20,627	564,856	936,123	3,654,554
508,671	14,214	84	..	2,024	16,322	524,993
544,450	3,983	676	..	582	5,241	549,691
<b>3,771,552</b>	<b>346,212</b>	<b>23,385</b>	<b>20,627</b>	<b>567,462</b>	<b>957,686</b>	<b>4,729,238</b>



TABLE F.—

PERSONS EMPLOYED.—RETURN showing the Total Number of  
branches of the Sea Fisheries

No.	DISTRICTS.	Fishermen and Boys (resident and non-resident).	Fishmongers.	Hawkers of Herring and other Fish.	Fishers.	Coopers.	Gutters and Packers.	Clerks.	Carters and Labourers.	Persons gathering Bait and Baiting Lines.
<b>EAST COAST.</b>										
1	Eyemouth . . . .	587	2	6	14	37	252	5	30	30
2	Leith . . . . .	1,583	334	314	123	39	79	78	273	214
3	Anstruther . . . .	1,323	23	30	20	20	107	7	15	281
4	Montrose . . . . .	849	233	173	50	12	14	12	43	536
5	Stonehaven . . . .	177	4	35	6	2	22	8	8	58
6	Aberdeen . . . . .	2,865	43	275	50	145	1,773	342	1,822	20
7	Peterhead . . . . .	1,793	10	44	91	250	1,093	32	309	95
8	Fraserburgh . . . .	2,020	3	10	76	436	963	70	420	48
9	Banff . . . . .	1,317	1	38	19	21	165	2	36	70
10	Buckie . . . . .	3,369	4	22	24	71	435	38	19	55
11	Findhorn . . . . .	1,180	20	107	48	22	276	15	37	20
12	Cromarty . . . . .	318	..	25	6	..	12	..	6	10
13	Helmsdale . . . . .	295	..	10	12	3	..	2	6	95
14	Lybster . . . . .	120	..	2	1	2	9	..	2	..
15	Wick . . . . .	913	12	40	38	228	390	14	100	28
	East Coast Totals carried down . . .	18,709	689	1,131	576	1,288	5,590	625	3,126	1,560
<b>Orkney and Shetland.</b>										
16	Orkney . . . . .	961	4	7	4	5	36	..	4	14
17	Shetland . . . . .	1,609	4	3	43	175	1,002	33	138	53
	Orkney and Shetland Totals carried down	2,570	8	10	47	180	1,038	33	142	67
<b>WEST COAST.</b>										
18	Stornoway . . . . .	1,992	20	40	16	37	1,400	14	115	..
19	Barra . . . . .	957	..	..	8	1	147	..	15	..
20	Loch Broom . . . .	352	3	7	8	3	65	2	15	15
21	Loch Carron and Skye.	720	..	..	22	8	39	3	22	90
22	Fort-William . . . .	343	8	12	10	3	12	2	6	20
23	Campbeltown . . . .	542	4	10	24	2	28	..	10	12
24	Inveraray . . . . .	375	4	10	7	2	32	..	12	..
25	Rothsay . . . . .	129	26	15	5	..	7	2	7	..
26	Greenock . . . . .	182	710	885	21	16	84	122	227	25
27	Ballantrae . . . . .	537	68	62	10	12	23	6	29	..
	West Coast Totals carried down . . .	6,129	843	1,041	131	84	1,837	151	458	162
<b>Totals brought down.</b>										
	East Coast . . . . .	18,709	689	1,131	576	1,288	5,590	625	3,126	1,560
	Orkney and Shetland	2,570	8	10	47	180	1,038	33	142	67
	West Coast . . . . .	6,129	843	1,041	131	84	1,837	151	458	162
	Grand Totals for 1919	27,408	1,540	2,182	754	1,552	8,465	809	3,726	1,789
	Grand Totals for 1918	15,416	1,848	1,831	669	690	5,568	613	3,225	1,523
	Increase in 1919 . .	11,992	..	351	85	862	2,897	196	501	266
	Decrease in 1919 . .	..	308	..	..	..	..	..	..	..







TABLE I.—No. II.

RETURN of the PIERS and HARBOURS Erected or Improved by the FISHERY BOARD FOR SCOTLAND from 1st January 1883 to 31st December 1919, showing for each undertaking the CONTRIBUTION made by the Board.

County.	Pier or Harbour.	Contributions by the Board.			County.	Pier or Harbour.	Contributions by the Board.		
		£	s.	d.			£	s.	d.
Aberdeen	*Roseheart	3,881	10	11	Fife	Brought forward	79,109	0	10
	Pennan	1,320	13	4		St. Monance	5,839	18	1
	Collieston	5,482	0	7		Pittenweem	4,450	0	0
	Sandhaven	738	10	9		St. Andrews	5,670	2	1
	Fraserburgh	5,000	0	0	Forfar	Cellardyke	1,300	0	0
Argyll	Carsaig, Mull	5	17	0	Haddington	Auchmithie	4,125	0	0
	Waterfoot,				Inverness	Port Seton	180	0	0
	Cantyre	24	0	0		Broadford,			
Ayr	Dunure	512	6	8		Skye	7,875	0	0
	Ballantrae	105	0	0	Kincardine	Stonehaven	2,900	0	0
	Maidens	1,181	19	6	Northum-	Greenshaven	319	16	1
Banff	Crovie	971	16	3	berland	Craster	1,000	0	0
	*Findochty	9,331	8	9	Nairn	Nairn	5,587	10	0
	Buckpool	1,474	18	11	Orkney and	Holm, Ork-			
	Buckie				Shetland	ney	1,102	0	10
	(Cluny)	15,000	0	0		Whitehall,			
	Portknockie	6,993	16	0		Stronsay	3,000	0	0
	†Whitehills	9,087	1	2	Ross and	Balintore	5,805	13	0
	Sandend	432	18	4	Cromarty	Rockfield	10	0	0
	Cullen	3,100	0	0		Ness, Lewis	8,072	6	7
	†Banff	5,465	2	8		Cromarty	300	0	0
	Macduff	5,000	0	0	Sutherland	Avoch	1,900	0	0
Berwick	Coldingham	3,000	0	0		Portnacon	900	0	0
Elgin	Lossiemouth	1,000	0	0			139,446	7	6
	Carried forward	79,109	0	10					

\* These harbours were begun by the old Board, but the whole of the payments made towards the works are now given.

† The grants to these harbours have not yet been wholly expended.

TABLE I.—No. III.

BRAND FEES.—ACCOUNT OF THE BRAND FEE REVENUE, THE COST OF COLLECTION, THE SURPLUS, AND THE EXPENDITURE, during the period from 1881 to 1919-20.

Year of Collection.	Total Proceeds of Brand Fees.	Estimated Cost of Collection.*	Surplus or Deficit	Year in which Surplus Voted.	Amount Voted.	How Amount Voted disposed of.						Transferred to General Harbour Fund.†					
						For Telegraph Guarantees.		For Scientific Investigation.		For Eyemouth Harbour Loan Guarantee.			10.				
1.	2.	3.	4.	5.	6.	7.	8.	9.									
	£	£	£		£	£	s.	d.	£	s.	d.	£	s.	d.			
10 Years } 1881-90 }	83,245	56,647	26,598	1882-92	26,860	9,710	14	1	768	1	4	1,824	0	0§	14,557	4	7
10 Years } 1891-1900 }	65,760	49,650	16,110	1892-1902	18,398	3,238	12	3	..	..	..	2,895	6	11	12,264	0	10
1901	6,423	5,096	1,327	1902-03	1,327	..	..	..	..	..	..	460	4	6	866	15	6
1902	7,259	5,219	2,040	1903-04	2,040	..	..	..	..	..	..	453	14	6	1,586	5	6
1903	6,067	5,181	886	1904-05	886	..	..	..	..	..	..	447	4	6	438	15	6
1904	8,070	5,443	2,627	1905-06	2,627	..	..	..	..	..	..	440	14	6	2,186	5	6
1905	6,582	5,363	1,219	1906-07	1,219	..	..	..	..	..	..	437	9	6	781	10	6
1906	5,100	5,487	387	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1907	8,928	5,277	3,651	1908-09	3,651	..	..	..	..	..	..	421	4	7	3,229	15	5
1908	7,218	5,419	1,799	1909-10	1,799	..	..	..	..	..	..	414	14	6	1,384	5	6
1909	3,857	5,376	1,519	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1910	5,246	5,467	221	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1911	4,455	5,549	1,094	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1912	2,915	5,550	2,635	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1913	4,110	5,549	1,439	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1914	1,288	5,639	4,351	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1915	Nil	5,420	5,420	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1916	Nil	5,406	5,406	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1917	Nil	5,217	5,217	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1918	Nil	5,302	5,302	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1919	4,553	5,715	1,162	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total .	231,076	208,972	22,104	..	58,807	12,949	6	4	768	1	4	7,794	13	6	37,294	18	10

\* For details see Civil Service Estimates (Class II., Vote for Fishery Board for Scotland). † To be spent as required. ‡ For details of these years, see 19th or previous Annual Reports.

§ This amount was set aside in the year 1891 as a Reserve Fund only to be drawn upon in the event of the Brand Fee Surplus in any particular year being insufficient, after defraying Telegraph Guarantees, to meet the liabilities under the Loan Guarantee. In 1892-93, £235 os. 2d. was paid from this Fund; in 1898-99, £486 4s. 6d.; in 1900-01, £473 4s. 6d.; in 1901-02, £463 14s. 6d.; and in 1906-07, the balance, amounting to £162 18s. 4d.

|| For details of these years, see 26th Annual Report.













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